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From academic burden reduction to quality education : a case study of students' and parents' perceptions and experiences under the double-reduction policy in China

Tao XU

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FROM ACADEMC BURDEN REDUCTION TO QUALITY EDUCATION: A CASE STUDY OF STUDENTS' AND PARENTS' PERCEPTIONS AND EXPERIENCES UNDER THE DOUBLE-REDUCTION POLICY IN CHINA

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Doctor of Policy Studies

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FROM ACADEMIC BURDEN REDUCTION TO QUALITY EDUCATION: A CASE STUDY OF STUDENTS' AND PARENTS' PERCEPTIONS AND EXPERIENCES UNDER THE DOUBLE-REDUCTION POLICY IN CHINA

by

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From Academic Burden Reduction to Quality Education: A Case Study of Students' and Parents' Perceptions and Experiences Under the Double-Reduction Policy in China

ABSTRACT

Research confirms the debilitating effect of academic stress on Chinese students. Excessive academic stress not only causes physical and mental problems for students but also affects the overall development of their abilities and literacy. This form of stress also exacerbates social problems, such as increased educational involution and deteriorating parent–child relationships. Therefore, the Chinese government has introduced the Double-Reduction Policy in 2021 to reduce the academic burden and out-of-school trainings for students in compulsory education. This study aims to explore high school students' perceptions and experiences related to this policy and provide implications for its improvement. To this end, this paper examines junior high school students' perceptions and experiences of changes under this policy by conducting a case study in Shenzhen, Guangdong Province. A mixed methods design is employed. A questionnaire survey is conducted to understand the students' perceptions and feelings about the policy, and in-depth group interviews are organised to collect additional data on these students' and their parents' views. Results show that the Double-Reduction Policy somewhat reduces the academic burden of students. However, some students expressed mixed feelings about the policy, commenting that it did not reduce the pressures coming from their tests, competitions and parental expectations. Students' learning status is either improved or impaired due to individual differences. Their problem-solving ability and creative thinking have both improved. However, some students show a decline in their academic performance due to their limited practice. Their independent learning abilities have increased due to changes in their learning methods. The extent of the academic burden reduction due to the policy also needs to be considered. Meanwhile, the parents observed that their children's attitudes towards completing their homework have become positive as a result of the policy, but they were uncertain the quality of their homework. Some parents were worried about whether their children have actually mastered their school knowledge, whilst others thought that their children spend too much of their free time playing games and using electronic devices instead of studying. They had no idea who to ask for help with regard to their children's education problems, so they demanded for schools to organise out-of-school trainings. Nevertheless, their relationship with their children was changed by the policy, and their financial pressures were reduced due to the prohibition of off-campus. The policy also introduced great challenges to family education. Parents started imposing higher requirements and more responsibilities on their children. Whilst the policy also created many benefits for students, some of them felt that their academic pressures have increased and that their learning status has slackened. They do not know who to ask for help in case they encounter study problems, and the pressure of competition in exams persists. Parents show different levels

of confidence in the effectiveness of the policy. The main innovation of this study lies in its linking of academic burden reduction to the changes in students' competency and spirit, which can help inform the development of a quality education system in China.

DECLARATION

I declare that this is an original work based primarily on my own research, and I warrant that all citations of previous research, published or unpublished, have been duly acknowledged.

Signature

Date of submission of thesis

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Writing a dissertation marks the start of a journey of exploration and learning, and now I have a more profound feeling about it. Before I enrolled in DPS at Lingnan University, I did not have many opportunities to do research. Although I cannot say that I know much about this research now, I can feel my progress every time I read my dissertation. I am grateful to many people for their valuable contributions to my research journey.

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From Academic Burden Reduction to Quality Education: A Case Study of Students' and Parents' Perceptions and Experiences Under the Double-Reduction Policy in China

XU Tao (6441997)

1. Introduction

Despite the many opportunities available to them, young people are confronted with many challenges and increased pressure. Academic achievement is a major issue faced by children and teenagers. Adolescence is an important stage of life (Susman & Dorn, 2009; Williams, Holmbeck & Greenley, 2002) that is associated with many issues, including emotional strain, suicide, rebellion, destructiveness, disobedience and defiance, which are all linked to high stress levels. Stress significantly affects teenage health and well-being (Byrne, Davenport & Mazanov, 2007; Moksnes, 2011; Romeo, 2010; Thoits, 2010). By analysing data from the Program for International Student Assessment (PISA) and an analysis report published by the Organization for Economic Co-operation and Development (OECD) in 2009, Yang and Fan (2019) found that Chinese education is plagued by the heavy burden imposed upon students and the increase in their extracurricular expenses. According to PISA data, students in four Chinese provinces spend more time in reading, math and science than students from the rest of the country. Reading, math and science account for 47.6% of these students' class hours, putting the country (region) in 17th place among all nations (regions) taking part in the test (Pino et al., 2016).

Students' pressures mainly come from their tests. Exam-based education not only adds to students' academic burden but also limits their capacity to study using their preferred methods (Zang, 2011). China's education is divided into basic, higher and adult education levels. Each child is lawfully required to attend nine years of compulsory education from primary school (six years) to junior secondary school (three years). Academic secondary education and specialised vocational secondary education are the two options for secondary school. Junior (three years) and senior middle schools comprise academic secondary

education (three years). Junior middle school graduates who want to continue their education take a locally administered entrance exam, after which they can choose between attending an academic senior middle school or enrolling in a vocational middle school (or dropping out at this point) to receive two to four years of training. Graduates of senior middle schools who want to attend university must take the Chinese national college entrance exam (*gao kao*). According to the China Education Center, the education stage can be divided into specific grades. China's nine-year compulsory education programme provides free education to children over the age of six in both primary (grades 1–6) and junior secondary (grades 7–12) schools throughout the country. Tuition is free, and the government sponsors the policy. However, schools still impose miscellaneous fees, and senior secondary school (grades 10–12) and college education are either optional or inaccessible.

The secondary school students participating in this study are currently in junior secondary school (grades 7–9) and are aged about 13–15 years. Physical, mental, moral and social adaptation are four aspects of health. The recent emphasis on students' mental health reveals that their mental health is declining, with some students reporting bipolarity and psychological instability (Auerbach et al., 2018). Subramani and Kadhiravan (2017) used stratified random sampling to collect data from 200 high school students in public and private schools in Salem, Tamil Nadu to understand the association between academic stress and high school students' mental health. Their findings offered some solutions to academic stress from the perspective of students.

1.1. Academic Burden Reduction or Driving Inequality

Overburdening students in primary and secondary schools with academic work has become a barrier to China's fundamental education reform and development. Students have faced various forms of academic pressure throughout the education reforms implemented over the past 70 years since the founding of the People's Republic of China. These reforms aimed to reduce students' academic burden to improve their physical health (early 1950s), ease the pressures for further education (1980s), promote quality education (1990s) and deepen curriculum reform (2000s). Several scholars have explored the causes of educational

stratification. For instance, Torssander (2010) evaluated the importance of education, salary, class and status, which are the four components of employment. Education, social class, salary, position and other characteristics have distinct effects on social stratification whether for males or females. The education level of family members supports this viewpoint. In most countries, parental education is linked to the ability of students to attend elite schools and pursue world-renowned fields of study (Triventi, 2013).

When China reopened to the outside world in the mid-1970s, its Ministry of Education (MOE) took on the role of supporting universal education and reducing poverty. Those who could not receive education owing to poverty were given significant support (Pepper, 2000). The Chinese government also introduced extensive educational reforms in the mid-1980s to increase the effectiveness and responsiveness of secondary schools to economic growth. Competitiveness is a constant in educational settings. Even though the central government retains responsibility over educational goals, institutional improvements, textbooks and instruction, several laws are in place to diminish government administration and to grant schools additional market power (Chan & Ngok, 2001; Ngok, 2007). However, education under this market-oriented policy is characterised by imbalance and stratification (Lin, 2006; Paine, 1998). For students to receive high grades, they need to spend much of their time doing their homework and practice exercises. Students' grades reflect the teaching level of their teachers, and their average scores reflect their schools' reputation. This evolutional judgment is ultimately reflected in students' academic burden (Zhao, 2013).

1.2. Cause and Effect of Academic Burden Reduction

Internal causes of excessive academic labour include unsuitable primary and secondary school curricula, unscientific evaluation mechanisms, ineffective teaching methods and lack of learning supervision (Xian, 2019). Meanwhile, the academic burden in Chinese primary and secondary schools is caused by a combination of factors, such as the examination system only focusing on test scores, scarce high-quality educational resources, knowledge-based instructional approaches and a fiercely competitive labour market (Mei et al., 2021). Exams are the most common cause of academic stress at home and abroad. Those students who are

deciding whether to continue their education and which majors to pursue face a great level of pressure that is far beyond what is acceptable for students (Michael, 2003). Exam-oriented learning mode affects students' image and class status, thus explaining the anxiety felt by students during exams (Ma & Wang, 2018). According to Song (2021), students' emotions are shaped by their exam results, and those students who are dissatisfied with their exam results face academic pressure that leads to academic burden (Shoshani & Steinmetz, 2014). The Imperial Examination's cultural tradition was an amplifier regarding social and psychological dimensions. Middle school students are still young, and most of them follow their parents' arrangements. In this case, they also face pressures from their parents' expectations and even wholly regret their parents' unfinished studies. Teachers' encouragement and students' desire for progress both play a significant role (Rebecca, 2006). Although the government has taken actions to alleviate the academic burden of students, the implementation effect could be more satisfying, and the results are even counterproductive. Given that this topic involves different stakeholders, conflicts of interest are present. Being overloaded with academic burden tortures students, parents and teachers, thus becoming a stubborn problem in China's education.

1.3. Double-Reduction Policy and Quality Education

The Opinions on Further Reducing the Burden of Homework and Off-Campus Training for Compulsory Education Students (the Double-Reduction Policy) were jointly released on July 24, 2021 by the General Office of the Chinese Communist Party's Central Committee and the General Office of the State Council. The overall goal of this policy is to promote student-centred education, uphold educational laws, concentrate on the healthy development of students' physical and mental health, safeguard their right to rest, enhance the calibre of school instruction and teaching, actively respond to social issues and expectations and lessen the burden on parents. The specific contents of this policy include comprehensively reducing the amount of students' homework, easing the burden coming from having excessive homework, enhancing the quality of schools' after-school programmes, catering to the various needs of students, upholding strict governance, thoroughly regulating off-campus

trainings, fervently enhancing the calibre of instruction and teaching and ensuring that students learn effectively on campus(MOE, 2021).

However, can quality education be achieved only by reducing the academic burden? The limited focus on exam achievements needs to be changed in favour of students' overall development, and students in China have little spare time to enjoy their childhood. Many famous university students are not resilient, flexible or self-assured. In a survey by Zhang (2002), 21.6% and 32% of the surveyed primary and secondary students, respectively, reported psychological difficulties. Students' perceptions and experiences will provide some reflections on this question. In the early 1980s, the term 'quality education' (*suzhi jiaoyu)* was introduced in educational publications to describe various educational programmes and activities aimed to enhance student quality (Woronov, 2003; Kipnis, 2006). These publications cover several topics, including curriculum reform, moral education (including job skills and mental health), physical and creative education, early childhood education, special education for children and education for racial and ethnic minorities.

Quality education is a supplement and extension to exam-based education rather than a unique concept. 'Competence education', 'essential-characteristics-oriented education' and 'character education' are some alternative terms to quality education. These different terms indicate the present challenges in explaining the significant connotations of *suzhi* in modern Chinese by using only a few English terms. The ideal 'high-quality' person is comprehensively developed, multi-talented, moral and patriotic. Confucian schooling, martial arts, and qigong all contribute to this notion of a well-cultivated individual. A disciplined cultivation process can build one's competence in various disciplines, resulting in total physical, mental and moral superiority and allowing for great social rank and authority (Kipnis, 2006). This concept has moved beyond the confines of regular education by the early 1990s to show the impact of changes in family parenting methods and modern technology on education. The MOE defined and standardised the curriculum in June 1999 and introduced Education for Quality, which is a formal policy that involves various and often-haphazard reform plans for schools in China.

1.4. Quality Education and Core Competency

Competency (*suyang*) refers to the 'competence or competitiveness' that a person needs to cope successfully with his/her life or with a particular activity. This comprehensive quality or overall characteristic comprises different quality components, such as the information, abilities and attitudes required to execute an action. A person can only be competent and competitive when s/he possesses all the necessary characteristics to participate in a certain activity. When a person only has the qualities needed to engage in a specific activity or some of its aspects, s/he cannot be genuinely competitive. From a connotation perspective, 'core competency' refers to the innate, universal and generally stable physical and mental attributes that exist in a person and to those inherent variables that affect the status and standards of living of modern individuals. In this case, core competency also falls under the quality category. In contrast to the individual quality components (such as values, intellect, skills and attitudes) specified in the original quality education, core competency is a complete or holistic quality within quality or literacy. In line with the emphasis of international research on fundamental literacy, core competency refers to the vital qualities that contemporary people should possess. Core competency is not a 'hodgepodge' of literacies but is rather a comprehensive list of literacies. In this sense, core competency refers to the 'key minority' literacy at the centre of quality education, 3D goals, holistic development and comprehensive quality, among others (Chu, 2016).

One of the critical advances in quality education in China is changing the focus of education from being knowledge based to being student development based (e.g. focusing on the active development of students and their all-around development). The new educational process has begun to develop a quality teaching method based on students' dynamic activities. The effect of teaching and learning depends on students' initiative and self-directed learning. However, instead of a systematic and in-depth understanding, quality education only offers a general understanding of the content structure of students' overall development, including the development of their moral, intellectual, physical and aesthetic aspects. This understanding of the structure of quality is abstract and does not reflect the new student development requirements. Meanwhile, the most significant breakthrough in the study of 'core qualities for student development in China' is the use of qualitative research methods, empirical surveys

and other scientific methods to understand the quality structure for the comprehensive development of students in China during the modern era. Previous studies have constructed a relatively systematic and complete competency structure with Chinese characteristics (reflecting the national education policy, the core socialist values and the requirements of traditional culture) and reflects the needs of the times (e.g. responding to the era of information technology and lifelong education) (Chen, 2016).

1.5. Research Questions

To achieve the above objectives, this study addresses the central question, 'What are Shenzhen junior high school students' and their parents' attitudes and perceptions towards the Double-Reduction Policy?' This question can be divided into the following:

1) What challenges do Shenzhen junior high school students face after the implementation of the Double-Reduction Policy?
2) What are the changes in Shenzhen junior high school students' abilities and competence as a result of the Double-Reduction Policy?

1.6. Research Objectives

This case study aims to explore middle school students' cognition and learning experiences under the background of the Double-Reduction Policy to establish a relationship between academic burden reduction and the gradual realisation of quality education. This study aims to realise three objectives.

Firstly, this study identifies the individual cognition of junior high school students in Shenzhen regarding the Double-Reduction Policy.

Secondly, this study examines the impact of this policy on the students of junior high schools in Shenzhen.

Thirdly, this study offers suggestions for policymakers to improve the overall structures and implementation of the Double-Reduction Policy to benefit middle school students.

1.7. Significance of the Study

This study addresses two gaps in the literature exploring the cognition and learning experience of students under the Double-Reduction Policy. The first gap is understanding the relationship between academic burden reduction and core competency acquisition and realisation. As some researchers stated, the current state of students' learning and their sentiments and experiences with learning, cognitive ability, emotions about the school and behavioural inclinations must all be considered (Liu & Huang, 2021). Students who perceive their academic load differently can study effectively, have a high quality of life, and experience reduced physical and emotional stress (Marks & Allegrante, 2005). Teachers should also be cognisant of the advantages and disadvantages of academic loads and commit to enhancing their instructional methods to better manage the academic burden of their students (Jethro et al., 2012). The actual growth of students should also be emphasised when meeting social needs for education in societal development (Yang, 2019). Academic burden should be reconsidered in light of comprehensive development. Any discussion of acceptable academic burden levels must be based on an individual's healthy growth (Liu, 2021).

The academic burden of students in compulsory education is also affected by the Double-Reduction Policy, and the education sector was likewise stifled as a result. Students with different academic performances have different needs for off-campus trainings. This research then investigates these after-school trainings from the perspective of students. Therefore, the second gap is understanding students' after-school training requirements. Implementing the Double-Reduction Policy does not seem to reduce parents' anxiety and even tends to aggravate such anxiety in some cases. Parents worry about whether their children can continue learning well despite having reduced homework or exams. When off-campus training institutions are banned in large numbers as a result of the policy, these parents start to worry about how their children will cope with high school and college entrance exams. The core of their anxiety lies in whether their children can achieve upward mobility in social classes through education. To investigate this topic, this study conducts focus group interviews with students of different academic performance along with their parents to further understand the reasons behind their anxiety and to offer suggestions for

balancing the implementation of the Double-Reduction Policy under the context of China's current evaluation system for primary education. The results will provide policymakers some suggestions to optimise the effects of the policy on the academic burden of students.

2. Education in Shenzhen, China

2.1.Introduction

This chapter focuses on an overview of the city of Shenzhen and basic education in Shenzhen, presenting a map of the uneven regional development of basic education, the scarcity of high-quality schools, and the differences in the status of class stratification's investment in children's education in large cities will also be highlighted. The problem of household registration exacerbating the uneven distribution of educational resources will also be covered.

2.2. Overview of Basic Education in Shenzhen

As the first and largest special economic zone in China, Shenzhen has implemented a market-oriented economy and an open-door policy. As of 2020, Shenzhen occupies an area of about 392 km^2 and houses over 4.69 million people distributed across its 4 administrative districts, namely, Yantian, Luohu, Futian and Nanshan, and 2 counties outside the area, namely, Bao'an and Longgang. In 1993, these two counties were turned into districts and formally became part of Shenzhen (Kam, 2003). With the development of the national economy and the rapid construction process of Shenzhen, the level of development inside and outside the zone is increasing. However, conflicts are also becoming prominent.

In 2009, Shenzhen had four times the number of people in China's entire special administrative region, and the output value per square kilometre outside the zone was only one-fifth of that inside; moreover, the budgeted education expenditure per student outside the zone was lower than the city average by about RMB 1,000 (Yuan, 2010). After nearly a decade of planning and improvement, Shenzhen's social, economic and public services have

developed towards a trend of equalisation, thereby enhancing the city's cohesiveness. However, although the three decades from the 1980s to 2010 were critical to Shenzhen's rapid development, the gap in the quality of education, medical care and other public services inside and outside the special administrative region remains vast.

As a first-tier mega city, Shenzhen has a large population, a rapid growth rate and a large proportion of foreign population. The school-age population in Shenzhen is also growing at a high rate. The teaching quality at four crucial senior secondary schools in Shenzhen is above average and so are the outcomes of their yearly college admission exams. Whilst primary schooling is said to be nearly ubiquitous and higher education has expanded, secondary schools, particularly senior ones, are in short supply (Lin & Zhang, 2006). Since the 18th National Congress of the Communist Party of China, the city's primary education has offered 641,000 new public degrees, of which nearly 400,000 were offered during the 13th Five-Year Plan period, representing a nearly 30% increase. About 70% of these new public compulsory education degrees are offered outside the original special zone, and 59% are provided to children with non-Shenzhen household registration (Chen, 2021). This proportion is the highest among the first-tier cities in China, thus ensuring that every school-age child who meets the conditions for studying in Shenzhen can enter schools.

Children with non-Shenzhen household registration also face tremendous pressure in entering higher education, and such admission inequalities are exacerbated by the presence or absence of Shenzhen households who have the opportunity to enter high school. Other children must work as labourers or just wait at home until they reach the age of 15 or 16. These children will be confined to China's poorest social strata for the remainder of their lives. As a result, the competition for advancement to the next level is inevitably fierce, with junior secondary students juggling hefty workloads (Belinda, 2008).

2.3. Balanced Development of Basic Education in Shenzhen

Public service equalisation has been a contentious issue of social and national concern, the core of which lies in guaranteeing equal opportunities and bottom-line parity above

specific standards (Wang, 2019), aiming towards providing equitable access to services for all members of society.

Education development is a national priority, and the government is responsible for guaranteeing the bottom line in providing essential public education, especially basic education, for children aged 3 to 15 years (Chen, 2008). The current enrolment policy in China bundles educational opportunities with family housing, household registration and other information, thus triggering social inequality and spatial deprivation that affect urban spatial justice (Cao & Zhang, 2011). The complex demographic structure of large cities and the gap between the wealthy and the poor further highlight the differentiated educational demands, with the high-income group pursuing quality education and school district housing and the low-income group demanding free public education opportunities.

The current education policies in China mainly point towards balanced development and equalisation, including district, inter-school and inter-group balance and equal opportunities, processes and outcomes (Jia, 2007). Amongst them, opportunity parity, as the basis of fairness at the beginning of education, is the only possible parity at present (Shi, 2007). According to Rawls (1988), equality of opportunity means that people of equal endowment, ability, ambition and motivation are given equal opportunities. The prospects of education and achievement should be approximately equal for individuals with similar motivations and endowments. The expectations of those individuals with similar abilities and aspirations should not be influenced by their social origins (Rawls, 1988)

Figure 1. Spatial distribution of enrolment opportunities based on the school district.

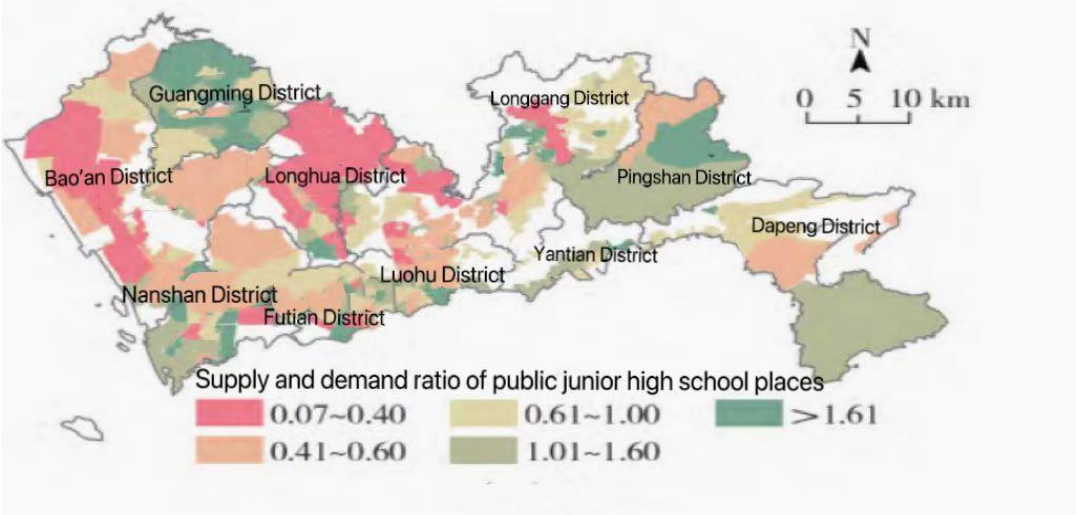
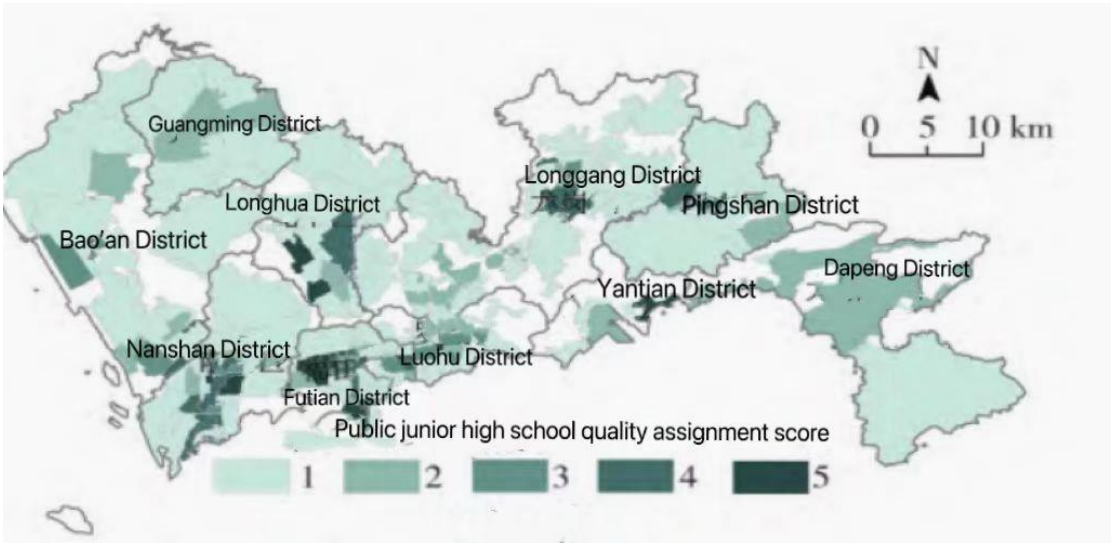


Figure 1 highlights a shortage of public primary and junior high schools in Shenzhen, with only a few areas having a balanced supply and demand. The availability of schools in the original four administrative regions within the Guannei District is high (close to 1). Whilst the development of supply and demand is generally coordinated in Shenzhen, some areas show local imbalance. Except for Pingshan, the availability of schools, especially primary schools, in the original six administrative regions outside the Guannei District could be higher. The supply of schools in the remaining districts seriously exceeds the demand, especially in Bao'an, Longhua and Longgang, which have a large population base. Except for the mature lots near the district centre, the remaining marginal areas show different degrees of school shortage. In particular, Bao'an, Longhua and Longgang have different degrees of school shortage, except for the mature lots near the district centres. The former Guanwai area is plagued by issues in policies and finance, with many historical debts and delayed planning and construction. The rapid population increase in recent years has resulted in an increasingly apparent supply and demand imbalance. The other type of degree shortage is mainly driven by the growth in residential population inflow, especially those in the newly developed and built residential areas and the industrial and residential mixed areas where the function of land is adjusted.

Figure 2. Spatial distribution of the availability of high-quality education based on the school district.



As shown in Figure 2, the layout of high-quality public primary and junior high schools in Shenzhen demonstrates a clear 'centre-edge' divergence. Schools in older urban areas are better than those in newer urban areas, and schools in regional centres are better than those in peripheral areas mainly due to regional differences in the historical implementation of the vital school system and financial investment. A high concentration of prestigious schools can be found in the former Guannei area, especially in Futian, Luohu and Nanshan, which have a high availability of quality education (close to 2). Meanwhile, most schools in the former Guannei area only have average quality (close to 1). Only the district centres around the district government and near the former Guannei area have better-quality education. Under the school district system, an extensive gap can be observed in education quality between the two sides of the school district boundary. Due to the scarcity and poor quality of education resources, the school district division adjustment and student diversion and transfer often lead to education injustice controversies and intense social competition for quality education resources.

The under-distribution of educational facilities around urban villages and subsidised housing is a common sight in Chinese cities (Bi, 2018). Relevant foreign studies show that the unequal spatial distribution of public service resources can widen the cost differences in access to opportunities for different groups of people (Harvey, 2009). Li (2003) explored the effects of a certain social structural shift, whilst Liu et al. (2004) observed a major underlying imbalance between the countryside and cities in terms of basic education. Under the present

school district system in Shenzhen and its points-based enrolment policy, access to schooling and the availability of quality education are constrained by housing status. A significant gap can be observed amongst different housing groups in their access to educational resources. The combination of policies and spatial constraints leads to a tilt or the exclusion of specific groups.

On the one hand, from the supply side, cities set education access criteria through enrolment policies, divide the school population according to their household registration and housing status and selectively absorb foreign populations to regulate the supply and demand of schools, which are reasonable from the perspective of urban and population management yet also undermine urban spatial justice. The high housing prices in large cities limit different groups' housing space choices. By contrast, the bundle of education and housing leads to the socio-economic situation of families directly affecting their children's education opportunities, and the affordability of housing, to a certain extent, constrains the enjoyment of education resources. On the other hand, from the demand side, different groups have varying levels of access to education and expectations for educational parity. Low-income groups expect equal access to school, whilst middle- and upper-class groups expect an equal quality of education. However, urban public resources are limited, and quality educational resources are scarce.

3. Literature Review

3.1. Academic Burden

The term ‘academic burden’ was introduced in the document *Actively Trying to Relieve the Students of the Heavy Academic Burden*, which was also the source of the term ‘burden relief’. Researchers have divided this concept into objective and subjective burden. Objective burden includes homework and exams, whilst subjective burden generally refers to emotional and psychological pressures. To describe the physical and psychological suffering caused by long-term, challenging education, Western researchers introduced the terms ‘pressure from studies’, ‘academic stress’ and ‘academic anxiety’ in the 1980s (Putwain, 2007). Academics in the United States, the United Kingdom and Finland are less likely to emphasise academic difficulties because these nations promote ‘happy learning’. Meanwhile, scholars from other areas are concerned about the negative impacts of homework and learning, such as bodily dysfunction, mental instability, anxiety, hopelessness, pessimism, personality disorders, confusion and decreased learning efficiency.

The Chinese society places significant pressure on students to succeed academically to gain respect, family pride and social mobility (Yan & Berliner, 2009), but these pressures also lead to high academic stress amongst school-age children and adolescents (Mistry et al., 2019). In China, burden relief originally refers to reducing the amount of coursework, which is in line with the conceptions in South Korea, Japan and Singapore (Ma, 2018). However, the definition of this word has evolved through time. Liu (2004) stated that academic stress in China has exceeded the conceptual category of learning length, amount, energy, emotional input and pressure sensations in foreign studies. According to Ma (2018), academic burden refers to the feeling of strain and the amount of time and energy spent in adjusting the current learning environment created by test assessments and assignments. Some scholars have investigated whether academic stress is measured by the number of learning activities completed or by students’ subjective psychological experiences. Viewing academic burden solely as an objective and external pressure on students is not ideal. Students’ views of their stress vary even at the same work level (Östberg, 2015). As a result, both objective and

subjective characteristics should be evaluated, with students' subjective views about their load deserving of more consideration. Therefore, any efforts to alleviate this load should consider the external causes and other fundamental variables that may contribute to subjective stress perception.

3.2. Academic Burden for Secondary Students in China

Numerous mental health issues amongst children and adolescents in school have long been linked to academic pressure. Heavy workloads, high academic standards and unhappiness with grades contribute to students' stress. Academic or scholastic stress can cause severe psychological symptoms, including depression, anxiety and even suicidal thoughts and actions, when students have exhasusted all their coping mechanisms. Due to the high expectations of their parents and the intense competition from their peers, these students face a great deal of academic stress (Sun, 2012).

The Chinese population relies heavily on education as a ladder for upward mobility (Xiong, 2015). For instance, Chinese students face pressures in their ability to enter high school. Only a few high school graduates (around 20% to 40%) are given the opportunity to pursue further education due to space limitations. According to Liu and Dunne (2009), Chinese high school students face extreme strain due to this intense competition, which impacts the country's educational system. To advance to the next grade, Chinese primary and secondary school students must pass four school-wide exams (two midterm and two final exams) each academic year. They often take board tests (either state or countrywide) after the 6-year (middle school entrance exam), 9-year (high school entrance exam) and 12-year periods (the National College Entrance Examination [NCEE]), which are written, given and evaluated by the state. The placement and advancement of a student in a regular or essential middle or high school, a regular or critical university or other forms of further study is directly based on how well they perform in these exams. Due to this exam-focused, intensely competitive educational system, Chinese students face significant levels of stress before taking their exams (Xin, 2017). The crippling consequences of academic stress on Chinese students have also been scientifically proven. Hesketh et al. (2010) investigated 2,191 9- to

12-year-old Chinese children from urban and rural areas and found that 81% of these children have high exam anxiety, 63% feared being disciplined by their teachers and 73% experienced physical discipline from their parents for their poor academic performance. In addition, more than one-third of these children claimed to experience psychosomatic symptoms at least once a week. The China Youth and Youngsters Research Center investigated 2,400 students of various ages across 6 cities and provinces and found that due to academic pressure and high parental expectations, 76.2% of these children developed negative moods, and 9.1% experienced depression. Many in-depth studies have also discovered that older Chinese teenagers are likely to ponder and attempt suicide partly due to the increased academic pressure that comes with their transitioning from middle to high school (Nguyen et al., 2013).

Academic stress has a detrimental effect not just on one's psychological health but also on his/her views towards authority figures and society as a whole and on his/her social connections with peers. In Shanghai, Zhao (2011) linked intense academic rivalry to jealousy, mistrust and hostility in peer relationships. In academic rivalries, close friends are frequently perceived as foes or rivals. In an interview, an 11th grade student recounted an incident she described as typical amongst younger teenagers in middle school: 'I had a classmate whose ranking position was comparable to mine. Our desks were close together in school. She would sneak up behind me as I was writing my schoolwork and watching. I would look at her furiously' (Pope, 2008).

Middle school students in China also need to bear the practice burden of physical education, which accounts for about 30% of their high school entrance exams. The academic load of these students includes a topic curriculum and an activity curriculum focusing on content. Subject curriculum burden refers to the amount of physical and mental efforts exerted by students to fulfil their learning requirements, including homework and extracurricular studies. The workload associated with the activity curriculum results from the time and effort spent by students on social practice, teamwork and social activities, which are helpful in developing their practical and social skills (Liu & Huang, 2021).

3.3. Causes of Academic Burden

3.3.1. Analysis from the economic perspective

From an economic perspective, the scarcity and imbalance of quality educational resources due to lack of funding directly impact students' excessive academic burden. The problem with higher education is the lack of total supply and the need for high-quality higher education resources. The scarcity of educational opportunities in key primary schools is also reflected in the increasing phenomenon of 'school choice', which is an essential symptom of the problem. Another significant characteristic of China's quality education resources is their uneven distribution between the country's eastern and western regions and between its urban and rural areas. The distribution of these resources should also be improved in terms of consistency. The uneven distribution of quality education resources is directly related to the need for additional funding for education. Whilst China reached its target of spending 4% of its GDP on education in 2012, in the 1980s, the average level of education spending in developing countries accounted for 4% percent of their GDP. In 2008, OECD countries spent 6.1% of their GDP on education; of the 36 countries for which data are available, only 9 spent 5% or less of their GDP on education. UNESCO has called for governments to pay 6% of their GDP on public education (Zhou, 2015). These figures illustrate that the total funding for education in China remains insufficient, and the level of funding per student is even much worse given the large number of educated people in the country. With inadequate funding, expecting sufficient resources for quality education can be challenging. Additional funding for education in economically backward regions of China is also needed. The results show that the difference in financial education expenditure among public primary and secondary schools, colleges, compared to the central and western parts, there are much more colleges and universities in the eastern section. The difference between urban and rural areas in the budgeted education per main expense and junior high school student is pronounced (Yang & Wang, 2014). In addition, the scarcity of resources leads to fierce competition, thus increasing the burden on students.

Many students in China are looking for quality secondary schools as a result of the growth of elementary education. However, large amounts of educational resources are needed to match this need, thus fuelling a competition amongst students for further study (Wen,

2012). Education funding in China is scarce and unequally distributed due to financial decentralisation policies. In 2000, the average yearly government funding for junior and senior secondary school students was RMB 77 and 277, respectively, whilst for junior and senior secondary school students in Xi'an, the yearly funding was only RMB 28 (Wang, 2021). The behaviour of burden-reducing persons in this situation was also modelled using the standard game theory of economics (Ren, 2008).

3.3.2. Analysis from the sociological perspective

From a sociological perspective, their children's educational success has become almost the only avenue for disadvantaged persons to achieve socioeconomic advancement. Students must bear an additional academic burden to enter quality high schools and universities. As a ladder for movement, education is crucial to the survival of the Chinese people (Coates, 2019). Different scholars have contrasting views on the current social structure. According to general sociological theory, the social structure in less developed countries is generally pyramidal, that is, the majority of the individuals are at the bottom of society, whilst relatively few persons rest at the top. Meanwhile, in developed countries, the social structure is generally olive shaped, in which the middle class dominates the society, and the upper and lower classes are relatively small in number. China is one of the less developed countries in the world, and many scholars believe that its current social structure is pyramidal. However, others believe that China's social structure is an inverted dingbat, with the lower class outnumbering the others (Yuan, 2010). Many scholars agree that the disadvantaged classes in China still make up a significant proportion of its total population, far outnumbering the dominant classes.

Understanding China's household registration (*hukou*) system, which is the 'most essential political institution' in Chinese society, and its function in the delivery of public services, especially education, is necessary to grasp the intricacy of the problem (Li, 2012). The *hukou* system, initially put in place in 1958, was used by the communist regime to separate the rural and urban people and enforce movement restrictions (Solinger, 1999, Liang et al., 2007, Kwong, 2006). The terms 'blue-collar worker', 'white-collar worker',

‘golden-collar worker’ and ‘grey-collar worker’ specifically refer to workers in various social classes in modern China. A grey-collar worker is a migrant worker or labourer from a rural area who lacks access to local urban household registers. Due to ingrained social bias and social classes, these labourers’ children are often neglected, left out and unwelcome.

Social class inequality has a fundamental impact on educational advancement and increases the academic burden of students. Every Chinese citizen must earn a rural or an urban stable household registration status under the *hukou* system. Rural residents face huge challenges in securing permanent residency, thus depriving them of many state benefits, including the right to free public education available to urban residents. A significant number of studies have explored the urban–rural imbalance in China, which is a distinctive aspect of the country’s urban–rural socioeconomic divide. However, the majority of these studies have focused on the economical components of this problem, such as the differences in income between cities and the countryside (Vyas & Kumaranayake, 2006). According to Jun, socioeconomic stratification and urban–rural divide are the leading causes of educational disparity. Other elements that further institutional hurdles and strata differences include the *hukou* system’s city and country divisions and the rising economic disparity (Zhang & Liu, 2005).

3.3.3. Analysis from the cultural perspective

Culture, or the cultivation of people, has a subtle and deep-rooted impact. Education is the business of nurturing people and is inextricably linked to culture. Therefore, studying education from a cultural perspective is natural. Some scholars have established a research framework that links culture, education and people by using the perspectives and methods of cultural philosophy and cultural studies (Huang, 2009). Bourdieu (2004) systematically explored the issue of family capital, which he divided into three types, namely, economic, social and cultural capital, amongst which cultural capital plays the most important role in students’ learning. Before entering the educational system, children gain varying quantities and types of cultural capital from their families, and their academic performance will either be strong or poor depending on the type of their cultural capital. In other words, the academic

gains obtained by children from their education depend on whether their families pre-invest in cultural capital (Liu & Wang, 2020). Bourdieu's understanding of cultural capital is similar to Bernstein's linguistic coding theory, where he argued that students from families with sophisticated language coding have an advantage in language adaptation and therefore show excellent academic performance. Bourdieu added that students whose families are affluent in cultural capital will have an advantage in understanding academic content.

However, the advantage of cultural capital must be contingent on one's possession of effective linguistic and cultural capital (Bourdieu, 2004). If the family's cultural capital is absent or does not function, then the value of schooling is greatly diminished. This premise sometimes challenges the explanatory power of cultural capital theory. Chen (2009) stated that cultural capital only has little effect on students in certain Chinese communities because this type of capital is only a social structure and resource when it exists objectively. For such resource to be effective, cultural capital must be incorporated into people's behaviors and practices (Chen, 2009; 2004). As a result, cultural capital plays a conditional function. The explanatory value of the theory is diminished if the community's culture does not support the function of cultural capital. Bourdieu (2004) claimed that cultural capital can assist students in picking up knowledge subconsciously by ear in their home environment, but he did not investigate whether such practice is a necessary way of picking up knowledge. Cheng (2016) suggested that innate motivation, moralised thinking and schooled qualities of the mind are beneficial to students' academic performance, and although he referred to these three as underlying cultural capital, the students' motivation, thinking and qualities of the mind are beyond Bourdieu's (2004) notion of cultural capital. Therefore, the explanatory power of Bourdieu's cultural capital in Chinese society may be higher than what was originally believed.

The Chinese traditional culture subtly and implicitly influences people's values and behaviour. Traditional Chinese culture praises those successes resulting from one's excellent academic performance, such as becoming an officer. The Chinese saying, 'All things are inferior, but only reading is superior', stems from the ancient Chinese people's pursuit of success through studying. The imperial examination system nurtured by the traditional Chinese culture provides an institutional guarantee for the survival of this ideological

tendency, and entering the civil service through this exam has become a lifelong pursuit of most ancient Chinese scholars.

The traditional Confucian philosophy is deeply embedded in the Chinese people's social standards outside the purview of formal education, thus making utilitarian learning goals part of the society's collective unconscious. Expectation pressure is another factor. A traditional essential virtue known as filial piety requires children to obey their parents, live up to their high standards and adopt the familial obligation framework out of self-respect (Song et al., 2021).

3.4. Students' Perceptions of Academic Burden

According to Liu (2006), due to their lack of responsibility and self-awareness, students experience heavy academic pressure, poor personal identification and resistance ability, lack of competition and initiative and poor psychological endurance. The individual influencing factors of academic burden can be classified into demographic factors (e.g. school grades), intelligence and non-intellectual factors (e.g. academic self-concept, psychological endurance, perception of external expectations and developing hobbies) (Garth, 2019). Academic pressure amongst peers is mainly formed by competition. This kind of pressure only occurs in groups with a sense of competition. Whilst producing significant value, this type of competition also imposes heavy academic burden on students. Tang showed that the degree of schoolwork burden is not directly proportional to students' academic achievement. Students with high and low academic achievement feel less academic burden, whilst those with average levels of academic achievement face heavy academic burden. This relationship shows an inverted U-shaped distribution (Fuchs, 2004).

Students suffer from different levels of academic stress when subjected to psychological stress due to various academic tasks apart from their homework (Gelkopf & Berger, 2009). Their academic stress increases as they enter a new term, where their learning tasks become progressively difficult (Banks & Smyth, 2015). Similar to academic stress, academic burden affects individual performance (Wunsch & Kasten, 2017). When a student feels stressed, his/her academic performance suffers, hence affecting his/her grades. Anxiety, nervousness,

digestive issues, constant concerns, stress and failure to attain academic success are all symptoms of academic burden (Dawood, 2016). Given that test scores are the only means in China to judge students' academic performance in a test-driven educational system, Chinese students, instructors and parents face tremendous pressure (Lee, 2008). Scholars have discussed the various negative consequences of a test-driven education system (Munir, 2014). For instance, test-driven education forces children to focus only on their exams, thus losing their imaginations, critical thinking and creativity in the process (Zhang et al., 2012).

The test-driven educational system also dictates what students should and should not study and marginalises those students who perform poorly (Riele, 2006). As a result, this system stops the psychological growth of students and the development of their other talents (Long & Li) and even negatively affects their physical and mental health (Achat, 2000), leading to various problems, such as burnout and depression (Wurm, 2016). Stress in the classroom is prevalent, and low emotional intelligence has been linked to mental problems and anxiety (Fernandez-Berrocal, 2006).

Parents' pressure, low self-esteem and low academic self-efficacy may also contribute to students' academic pressure (Kim & Park, 2006). Academic burden for students can be either reasonable or excessive as defined by the style of their schools, the degree of their teachers' demands and the requirements of different subjects and grades.

To examine whether quality education can effectively reduce the academic burden of middle school students, this study selects Shenzhen as a representative of China's first-tier cities. Students and parents from a middle school in Shenzhen were taken as research objects to examine students' perceptions and feelings of academic burden under the background of the Double-Reduction Policy.

3.5. Measures to Reduce Academic Burden

To relieve the academic stress of primary and middle school students, researchers have attempted to reduce their academic burden from the various aspects of education reform, such as curriculum, teaching, teaching materials, homework, examination and evaluation. Others have conducted practical explorations of the burden reduction problem under the new

curriculum reform, such as implementing new curriculum standards, providing a theoretical basis for burden reduction, gaining an in-depth understanding of students in classes, assigning flexible homework, collectively preparing lessons by teachers and making individualised burden reduction plans for schools (Bingham, 2018). Some researchers have reflected upon the problem of burden reduction from the perspective of teaching material reform. The goal of teaching material reform, the malleability of teaching materials and the correlation between teaching materials and examinations are three aspects of reducing academic burden (Hart & Ahuja, 1996).

Some researchers underscore the importance of strengthening the education system design and improving the regional education quality monitoring system, school supervision, evaluation system, college entrance examinations and enrolment system (Wang, 2014). Some researchers believe that burden reduction is not purely an educational evaluation problem and that a highly profound reason lies in the utilitarian educational concept and educational system (Liu, 2014). Some researchers put forward countermeasures to reduce the burden of homework design (Chen, 2022), whilst others suggest that in order to reduce academic burden scientifically, the physical and mental development laws of adolescents should be given the same respect as education laws, the growth standards of adolescents should be formulated by grades, the curriculum requirements should be adjusted, the content of teaching materials should be updated according to the characteristics of the times and learning activities should be arranged accordingly (Alismail & McGuire, 2015). Other scholars have explored academic burden from the perspective of stakeholders. Specifically, reducing academic burden requires improving the rational level of each game subject and the innovation of the entire education system (Alismail & McGuire, 2015). Teaching and research departments should also contribute to reducing academic burden (Chen, 2014). Teachers' cognition of academic burden must be changed through concepts and ways to reduce academic burden through deep learning (Wang, 2016). Transforming parents' educational concepts is imperative, and reducing students' independent burden is urgently needed (Lei, 2000). Specific strategies to address academic burden include optimising the process to stop academic overload, differentiating academic tasks according to the individual and integrating the efforts at home and school (Wang & Xiong, 2014).

In sum, domestic and international scholars have systematically studied the causes, influencing factors and solutions to primary and secondary school students' academic burden from both theoretical and practical perspectives and achieved fruitful results that are significant for educational practice. However, these studies have left some areas for improvement. Firstly, whether the promulgation of the Double-Reduction Policy has a significant impact on students' schoolwork burden warrants urgent study to aid in the implementation and formulation of future education policies. Secondly, although 25 in-depth studies have explored students' academic burden, they are all conducted from the perspective of overall burden, and only a few have considered secondary school students' experiences.

3.6. Theoretical Basis from the Students' Perspectives

3.6.1. Student-centered theory

The understanding of the feature of education in both ancient and modern times fundamentally stems from the understanding of human beings. The history of education in China is a sequential chapter of teaching people to be human. In the West, during the ancient Greek period, classical educators represented by Socrates, Plato and Aristotle made the cultivation of governing talents the goal of education. During the medieval period, theological values were at the core, and soteriological education was used by the church as a tool to control people's thoughts from top to bottom. During the Renaissance in the 14th–16th centuries, human development was the goal of education. The Enlightenment in the 17th and 18th centuries set off a 'humanistic' liberation of thought, with Rousseau being the representative of natural education advocating the cultivation of a free, equal and rational 'natural man', focusing on the object of education of children for the first time. In the 19th century, with the rise of the Industrial Revolution, education centred on a humanistic and rational approach and revolved around human and social orientation. The 20th century witnessed changes in educational ideas. However, these ideas were all explorations of education under the premise of human orientation, that is, what kind of education is most suitable for children.

The American scholar Dewey (2001) proposed the concept of 'child centredness' and advocated a scientific approach to the study of children, arguing that the essence of education is the growth of children, their lives and the continuous transformation of their experiences. Elementalists criticised Dewey's concept of progressive education, which they claimed to overestimate children's abilities. They also argued that child centredness can lead to disorder, that education should be 'subject centered' and learning materials should be systematic. The above discussion shows that the essence of the pursuit of education is essentially the exploration of human fulfilment, and the understanding of human beings drives the understanding of the essence of education and better living for humanity. Therefore, the essence of education is to nurture people and to promote children's healthy, scientific and comprehensive growth. Education has both individual and social functions, that is, education promotes people's comprehensive development and society's progress. Promoting human development is the native function of education. The modernisation of China has brought its people to an unprecedentedly important position. The Central Committee of the Party attaches great importance to the role of education in nurturing people and proposes that the essential task of education is to establish people's morals. The requirements for the overall development of students' moral, intellectual, physical and aesthetic development and the relevant content of socialist core values are concertised to sincerely answer the question of 'what kind of people should be trained and how to train people' in education (Lin, 2016). In 2018, the National Education Conference proposed making moral education a fundamental task. Establishing moral education is a comprehensive concept that prioritises morality, ability, scientific achievement and all-around development (Ma, 2021).

Education is a science whose goal is to train people. Whilst traditional education has always been student centred, modern education has gradually deviated from this focus for various reasons. However, with the development of psychology, philosophy, education and other disciplines, the student-centred concept of education started to return. In 1952, the famous American psychologist Carl Rogers proposed the concept of student-centred education. According to Rogers, the typical educational connection between teachers and students is analogous to that between a kettle and a teacup. The teacher acts as the kettle that pours water on empty teacups, which represent the students. Students are entirely passive in

teaching (Jethro, 2012). Under the student-centred educational belief, Rogers proposed a new teacher–student relationship in which the teacher acts as the promoter of learning. He also advocated the use of ‘facilitator’ instead of ‘teacher’ (Rogers, 1952). In the teaching process, teachers should take students as their starting point, value the differences amongst their students, focus on their experiences, inner needs and personal interests, pay attention to their development and improve their comprehensive ability (Li & Cao, 2019).

3.6.2. Multiple intelligences theory

According to Gardner, intelligence can be classified into musical–rhythmic, visual–spatial, verbal–linguistic, logical–mathematical, bodily–kinesthetic, intrapersonal, naturalistic and existential intelligence (Cavas, 2020). These types of intelligence are created by people engaging in culturally valued activities, which help them create distinctive mental patterns. According to multiple intelligences theory, people have many ways to become intelligent aside from passing IQ tests. The notion of multiple intelligences not only allows for essential activities and research to be conducted in education but also alters educators’ perspectives towards the concepts of learning and intelligence. Gardner established a correlation between verbal–linguistic and visual–spatial intelligence and academic accomplishment. Students’ academic performance and accomplishments have also been positively correlated with some types of intelligence, such as logical–mathematical, visual–spatial, verbal–linguistic, intrapersonal, bodily-kinesthetic, interpersonal and naturalistic intelligence (Shahzada, 2014).

The growth of students is about ensuring the happiness of families and the country’s future. Education aims to cultivate socialist builders and successors who are developed comprehensively and with the right values, and the direction to strive for is to provide a good education that satisfies the people. From an individual perspective, the healthy growth of students requires the overall development of their moral, intellectual, physical, social and aesthetic qualities. The diversity of life needs determines the implementation of the comprehensive development of education. Students have complex and diverse psychological characteristics. To cultivate these students into complete human beings and to meet their

diverse development needs in the face of uncertainty, comprehensive education should be provided at the foundation stage.

Implementing a holistic education is a requirement of the Marxist theory of the 'free and comprehensive development of human beings'. Whether it is the Chinese idea of education in harmony with heaven and earth or the Western theory of natural education, the comprehensive development of human beings is a fundamental concept throughout educational thought. Marxism believes that the highest level of human development should be free and comprehensive to realise human nature. Human development can be assessed in terms of comprehensive, accessible and complete development (Han, 2016), which point towards the extensiveness, autonomy and degree of development.

The essential tasks of primary education determine the implementation of education for comprehensive development. The overall development of human beings must be connected to society and needs to rely on education. School education is the main form of overall development, whilst out-of-school education is a supplementary form of practice and individualisation. The first thing we need to do is to pay attention to morality. A well-rounded person is a moral person (Hu & Wu, 2003). Talent can only be guided by virtue if it stays on the right path, and only then can virtue and talent coexist. We should employ moral education to develop character, intellectual education to prepare the mind, physical education to exercise the body, aesthetic education to acquaint the senses with the world and labour education to help people integrate into society.

3.6.3 *Cultural reproduction theory*

The cultural reproduction model suggests that children of parents with excellent cultural and educational backgrounds have an advantage in their educational opportunities. In other words, the cultural and educational levels of the parents' generation can be inherited and continued by children, thus completing the process of cultural reproduction in the family. Cultural reproduction is realised through three main mechanisms, namely, educational expectations, cultural capital and human capital.

Educational expectation means that those families headed by parents with excellent

education background emphasise the importance of education, hold high educational expectations for their children and are willing to pay more to meet such expectations. Children also accept this concept implicitly, thus developing high self-expectations for their education and a great enthusiasm for learning. Family education background has three mechanisms, the first of which involves the encouragement, supervision and influence from parents and teachers. Amongst them, parents' encouragement is the fundamental reason for children to maintain their enthusiasm for learning and strive for academic excellence (Williams, 1993). The second mechanism is cultural capital. Bourdieu viewed the process of being educated as a process of receiving and transmitting cultural capital. Schools are social institutions that are responsible for indoctrinating and transmitting cultural capital. In this sense, the offspring of highly educated families have an inherent advantage in achieving educational success (Bourdieu, 1974). Recent empirical studies show that due to their family's cultural environment, those children from families with excellent education background are likely to engage in learning activities (e.g. extracurricular reading) that are conducive to improving their academic performance. The third mechanism is human capital. Highly educated parents are able to tutor their children, answer their questions and improve their learning methods and skills (Coleman, 1988), all of which contribute to their academic success. The commonality amongst these mechanisms is that the cultural strengths of the family are initially translated into individual children's motivation and performance before being transformed into educational opportunities. When the selection process of school enrolment and school choice is based on the principle of meritocracy, the family's educational background plays an important role in children's schooling, and the model of cultural reproduction becomes the main cause of educational inequality. Under this model, educational inequality is mainly realised amongst families with different educational backgrounds. A higher education level of parents corresponds to more educational opportunities for their children.

3.6.4 Family education

Family education is an educational activity that takes place in family life and centres on parent–child relationships to train people in meeting their social needs. As such, family education plays a very important role in children's development (Guan, 1994). The home serves as the most important setting outside classrooms for students to learn that either magnifies or reduces the impact of schools on children's academic performance. Kellaghan et al. (1993) concluded that the home environment is the most powerful factor in determining the school learning of students, their interest in school learning and the number of years of schooling they will receive. Parents and the family environment are therefore crucial to children's learning.

Following China's reform and opening up and Deng Xiaoping's southern tour in 1992, the socio-economic situation in China underwent fundamental changes that signaled the beginning of a new round of reform of its education system. The most obvious change can be seen in the significant rise in the cost of education for families. Over the past decade, the rate of increase in the cost of higher education has far exceeded the rate of increase in the national income and average income of the population over the same period; thus, supporting a college student creates an economic burden for the average urban resident (Li, 2006). With the rising fees being charged in high school education, a new form of private education with independent enrolment rights has emerged under the industrialisation of education. This new form provides well-off families with alternative choices for the further education of their children. Therefore, economic conditions have a very important impact on the type of education received by children.

3.7. Quality Education

Chinese scholars have advocated a new model of education called quality education. Students' performance and improvement in all elements of virtue, intellect, mental health and community service are prioritised in quality education. These elements are not independent of one another but are rather intertwined (Lin, 2021). The broad scope of educational

opportunities refers to all aspects of a product's quality. Students should have a well-balanced growth and demand that all areas of quality be improved. They may engage in the same amount of work simultaneously if they have the same time and pace to develop their qualities and interests in their competence areas (Zhu, 2019). For the most part, quality education was created to address the shortcomings of the yearly national college entrance exams, which prioritise the test scores of students on a specific area whilst disregarding their overall development. According to the 1993 national standards for juvenile development, primary and secondary schools should have their own distinctive characteristics (Li, 2003) and turn away from test-based education in favour of developing students into morally superior, knowledgeable, skilled and physically and mentally healthy individuals. Quality education gives birth to education reform as reflected in curriculum reform. Guangdong Province is the provincial pilot capital of the education curriculum reform in China, whilst its cities, including Shenzhen, serve as the vanguards of reform. Both successes and failures are encountered in the process. In the pursuit of quality, the education process is worth exploring. Some lessons may also be applied to other cities. However, several challenges in this process remain unaddressed.

3.7.1. Connotation of quality education

While the term 'quality education' was introduced in the late 1980s, this concept still lacks an exact definition. From various perspectives, many professionals and academics have commented on their idea of quality education. In its official publication, the State Education Commission defines excellent education as a method of instruction intended to raise the standard of living in the country. The activities preferred by a person (interests, ideals and values), his/her management and control over processes of activity (cognitive understanding, emotional involvement and regulation of will), the efficiency of these activities (skills and abilities), the novelty and uniqueness (creativity), aesthetic sense (aesthetic power) and coordination of his/her relationships with others during these activities (interaction and cooperation) and his/her compliance with social norms when dealing with conflicts and collective interests (moral quality, law-abiding consciousness and political quality) are all

determined by the relevant qualities possessed by this individual (Chen, 2003).

Shi and Liu (2007) stated that the word ‘quality’ in Chinese quality education refers to the different positive traits, including academic, talent and quality traits, that individuals acquire and shape as a result of appropriate education and influence. Combining these characteristics constitutes the essential quality or primary conditions for students’ learning, working and living. Quality education is an educational process that cultivates students into natural, intelligent and innovative human beings. The fundamental purpose of quality education is to realise the value of students and to improve the development of society, whereas its essential practice is to cultivate students’ disciplinary literacy. Accordingly, the Chinese government has proposed the primary pathway for implementing quality education in teaching basic education subjects. Li Lanqing, the Vice-Premier of the State Council, emphasised that quality education embodies the essence of primary education. From the perspective of cultivating socialist citizens with ideals, morals, culture and discipline, Li stated that quality education intends to comprehensively cultivate noble ideological and moral sentiments, enrich knowledge in various areas, develop good physical and psychological qualities, build solid and practical skills and promote a healthy personality, thus abandoning the one-sided view of exam-oriented education. Students should be given a solid foundation to learn how to work, live, understand their world, keep healthy and cultivate their aesthetic abilities in order to achieve a comprehensive and coordinated development in their moral, intellectual and physical aspects (Li, 1996). Zhu Kaixuan, the Director of the State Education Commission, pointed out that quality education essentially aims at improving the quality of the whole nation. The essential characteristics of quality education are to develop the potential of the educated and to promote their positive development in all aspects (Zhu, 1997).

In 2007, Professor Yuan Zhenguo argued that quality education is an educational theory with Chinese characteristics, a nationalised and localised version of education in China, a vivid demonstration of Chinese educational practice that has a rich connotation, open nature and room for development and an essential contribution of China to the world of education. Quality education has been mentioned frequently in UNESCO and other international literature. With its continuous implementation in China, quality education will have an

increasingly widespread international impact (Yang & Dong, 1998). Liu described quality education as China's answer to the question, 'what kind of people to train', which has been asked since the 1980s. Specifically, quality education describes how education can take on the crucial task of improving the quality of workers. Its Chinese connotation has been gradually enriched and refined as people's understanding of the problem has deepened. Quality education also takes a bottom-up and top-down approach to promote reform and innovation (Liu, 2014). Accordingly, some researchers concluded that quality education is a product of China's attempts at educational reform and is in line with modern development trends and rich theoretical values. To achieve the goal of building a harmonious socialist society, we need to transcend the creative way of thinking and consider the issue of quality education from a higher position.

3.7.2. Main characteristics of quality education

From 2005 to 2006, according to the instructions of the central leadership, the Chinese Academy of Social Sciences, Ministry of Propaganda, Ministry of Personnel, Ministry of Education, the Central Committee of the Youth League, the National Bureau of Statistics and other departments formed a research group to systematically investigate the current situation of promoting quality education in China. The so-called subjectivity of quality education aims to fully promote the subjectivity of human beings and concerns the development of students' personalities. Quality education is generally defined as education for all students that comprehensively develops their physical, psychological and cultural qualities. Quality education positively influences people's learning, ability and characteristics. For students, these characteristics constitute the essential qualities or conditions for their future social work, social activities and social life (Shi, 2007). Whilst both learning and creativity are essential to the nature of children, Chinese education falls short in cultivating children's creativity. Human development should involve developing the creative personalities of students. Therefore, creativity should be a characteristic of quality education (Zhang, 2021).

3.8. Quality Education: A Remedy for Students' Academic Burden?

Quality education will lead to significant academic accomplishments in the long term but may only bring scholarly achievements in the short term. In other words, quality education may help students achieve some level of success that would lay the foundation for their long-term success. However, possible advantages, such as opportunities to represent schools in highly valued activities organised by the government, may influence students' focus on quality education. As a result, their schools' public reputation would improve, thus attracting more funding from other institutions or people and more high-quality students (Lin, 2011). Quality education has been implemented in China over time. Kipnis (2011) examined the educational philosophy and practice in China's quality education reform, suggested that the educational philosophy and practice in Chinese classrooms need to improve in terms of consistency and pointed out that subjects in the cultural context of Chinese classrooms cannot be easily differentiated. Quality education reforms have been in place since the 1980s, including numerous measures to lessen educational pressure. Individual competitiveness is a secondary goal. From an existential and phenomenological perspective, Bregnbaek (2011) argued that language seems to set its own standards for the pursuit of pleasure rather than acknowledging its inter-subjective nature.

In 2006, a general research report on quality education pointed out that although quality education has progressed, some deep-rooted institutional barriers still need to be eliminated. However, some of these barriers are particularly difficult to solve. Despite efforts in this area, the expected results have not been achieved; some areas in China offering quality education have attracted great fanfare, and exam-oriented education has been supported with solidity (Qin & Yang, 2006). Even though these challenges in quality education are obvious, the term 'difficult' is never used in the associated descriptions. In 2010, the government acknowledged the challenges in developing quality education (MOE, 2010). In a society centred on economic development, education plays an instrumental role in serving the society and economy and in seeking effectiveness, input–output ratio and human resource contributions. Meanwhile, the development of each individual is far from being truly valued as the most fundamental basis for judging the adequacy of education. As a result, quality education, despite its high status, has not yet taken hold (Ye, 2011).

Promoting quality education requires a comprehensive and systematic condensation and description of competency for student development. The reform of quality education has achieved remarkable results. However, students need help in addressing several problems, such as their poor physical quality, social adaptability and practical and creative skills, which deviate from the educational goal of promoting students' overall development. Lin (2016) stated that a quality-education-oriented evaluation system is yet to be established, thus creating additional challenges in transforming exam-based education into quality education..

Quality education has witnessed a fruitful development thus far and is generally recognised both inside and outside the education sector. However, many problems remain, such as the insufficient comprehensive overall development level of students, their poor ability to develop sustainably, their damaged physical and mental development as a result of further education pressures and their learning ability, innovation ability, survival ability and psychological quality that cannot respond to the requirements of social and economic changes. Due to these disadvantages, these students cannot satisfactorily compete on an international scale. The only way to break through the bottleneck of education reform is to change students' way of thinking, and the development of a core literacy system for students should be based on the achievements of quality education through enriching and improving the proposition of quality education and pushing the education reform to a stage of high-quality development.

3.9. Challenges in Implementing Quality Education in China

Quality education is implemented through concept change and curriculum reform. Whilst the Chinese government has been facing challenges in implementing a curriculum reform, many reports show that schools are implementing such reform on their own. However, these initiatives have created discrepancies between government decision making and the current reality of schools (Johnson & Kruse, 2009). Other key problems are the resistance to curriculum reform, the most influential exam NCEE in China and the expectations of parent and children under an exam-oriented education.

3.9.1. History and traditional culture influence

Since the establishment of the imperial examination system in the ancient China, the concept of studying for this exam has been deeply rooted in Chinese people's minds. In the era when the eight exam papers were introduced, the idea of taking the exam changed the students' learning attitudes and teachers' educational orientation. Although terminated way back in 1905, the shadow of this system, which lasted for more than 1,300 years, still lingers in the current education system.

For instance, the value orientation and educational concept of success or failure based on scores are still being observed in school education. Although China has abolished the junior high school examination system and adopted the policy of enroling students in the neighrbourhood according to their household registration status, many high-quality secondary schools continue recruiting gifted students through competitions and paper-based tests due to the uneven distribution of educational resources. Many schools are even using the promotion rate of essential high schools to boost their teaching standards and attract more quality students. In exam-oriented education, cultivating students who can memorise, solve problems and know standard answers is treated as the goal and evaluation standard for educational success. Due to the influence of this education ideology, the teaching and learning styles in China's primary education are very homogeneous, thus imposing academic burden on students.

3.9.2. Deviation of basic education approach

Knowledge has been rapidly growing due to the accelerated development of scientific research since the 20th century. New disciplines have emerged, each of which has established its own deep foundation and internal system. However, many cracks are formed among these disciplines, and knowledge is no longer considered whole. As a result, as the amount of knowledge that needs to be instilled in schools increases, students face more burden and fewer opportunities to apply their learning. Although knowledge education has made a historic contribution to laying the foundation for students' development, the way of and the

motivation for transferring knowledge under an exam-based education system have stalled students' thinking and development. To address this situation, contemporary education must emphasise knowledge and wisdom transfer.

An education that merely transmits knowledge is a kind of education of result and inheritance. By contrast, an education that cultivates wisdom is innovative. In essence, wisdom is not expressed in the results of but rather in the processes of experience and thinking. In these processes, wisdom is manifested in the ability of students to solve problems, respond to distressful situations and think with substance. Therefore, wisdom is a sublimation of experience. Wisdom depends to a large extent on the understanding of the interrelationships amongst various types of knowledge. Given that China's basic education lacks a practical design, school teaching, student learning and Chinese and college entrance exams mainly revolve around knowledge education and lack hands-on practical components.

The formation of innovative human ability depends on the mastery of knowledge, the training of thinking and the accumulation of experience, amongst which the core is the training of thinking. Regarding the mastery of knowledge, China's basic education has formed a set of practical methods that have made essential contributions to laying a solid foundation of knowledge for students. Training of thinking fundamentally restricts the formation of human innovation ability and is a recognised weakness of basic education. As for accumulation of experience, primary and secondary school students in China lag far behind their counterparts in developed countries because their learning is limited to their classrooms and schools. Two main types of thinking and abilities are related to innovation, namely, deductive and inductive thinking. According to Einstein, the introduction of formal logic by Greek philosophers (deductive ability) and the realisation that cause-and-effect linkages might be identified via methodical experimentation (inductive ability) are the two major contributions that create the foundation for the advancement of Western science during the Renaissance. Basic education in China needs to improve in training students' thinking (mainly inductive) ability, which plays a key role in the development of innovative talents. Given that the deduction method can only verify but not discover the truth, deductive thinking can only imitate but not create. Considering the critical role of the development of thinking, what education model can foster creative thinking amongst students? This question

can be answered by the core literacies described in the following section.

3.9.3. Difficulties in implementing curriculum reform

To realise a transformation from exam-oriented education to quality education, a curriculum reform in primary and secondary schools has been launched nationwide in 2001. The majority of the general public has endorsed the goals of this reform. In 1999 and 2000, Kipnis (2011) investigated the curriculum reform in Zouping County, Shandong Province and found that parents with decent, stable jobs generally supported such reform. Thogerson (2000) found that the public's reaction to the reform was 'overwhelmingly supportive', thus reflecting the teachers' and parents' worries about students' academic burden. These reactions also highlight the numerous flaws in China's exam-oriented system, particularly the escalation of exam competitiveness, which continues to be a cause of concern amongst the general public, and the quality education ideas have touched a famous chord.

The primary and junior secondary curriculum reforms were initially implemented in selected locations. During the autumn of 2001, Beijing began changing its primary and junior secondary curricula. By the autumn of 2004, the conductor initiative enlisted the participation of 81% of primary schools and 56% of junior high schools in the capital (Beijing Report, 2006). Near the end of 2005, then-Minister of Education Zhou Ji reported that practically every area in China had begun adopting the new curriculum at the primary level, whilst Guangdong, Shandong, Hainan, Ningxia and Jiangsu were pioneering the new secondary curriculum (Zhou, 2004).

Specific topic curricula were also implemented following the guidelines mentioned above. The State Education Commission decided in the late 1980s that the national unified curriculum materials needed to be revised so that the curricula could cater to the local circumstances. As a result, regional publishers and education bureaus were requested to submit their proposals for the curricula and suggest teaching materials to be used in their schools (Marton, 2006). Textbook contents were revised to be engaging, attractive and relevant to students' lives and to the world (Branston & Stafford 2003). The motto 'one curriculum, multiple textbooks' encourages educators to use different instructional resources

rather than depending on a single textbook (Yang, 2019).

3.9.4. Biased assessment and evaluation system

Whilst promoting all-around human development, education also assumes the essential social function of promoting social progress. Screening is the mechanism that distinguishes people with different abilities and specialties and matches them with the job market. To show to the labour market that one is highly capable and specialised, s/he must possess an effective educational signal, such as a higher education degree or professional orientation, thus fuelling his/her pursuit for higher education. However, the imbalance and insufficiency of educational resources trigger an inevitable competition for education. According to Mike Spencer, an American scholar who proposed theory of educational screening, educational competition and over-education are inevitable as long as education carries the screening function (Stiglitz, 1975). Competition is inevitable in education. On the one hand, educational resources have not yet reached an abundant and balanced level to meet the needs of the people, and a comparison of theoretical admission rates[1] for each level of education from 2000 to 2019 (Table 1) reveals that the number of students graduating from each level of education does not precisely match the number of students enrolled in the next level, thereby triggering a competition for further education. Moreover, the theoretical admission rate for secondary school examinations is around 50%, causing parents to worry about their children's chances of obtaining further education.

Table 1. Comparison of theoretical admission rates by academic section, 2000–2019

	2005	2010	2015	2017	2019
Admission rate of college entrance examination	76.3	83.3	75.3	98.2	115.91
High school enrollment	877.7	836.2	796.6	800.1	839.5
Number of junior	2106.5	1748.6	1417.6	1397.5	1464.8

[1] Theoretical admission rate at the general education level refers to the ratio of the number of students enrolled in each school period to the number of students who graduated in the previous school period. Differences are expected between the actual admission rates of each section.

high school graduates					
Acceptance rate of secondary school entrance examination	41.7	47.8	56.2	57.3	57.31

Source: Based on relevant statistics from the China Statistical Yearbook (2000–2020).

On the other hand, people's perception of 'good or bad' careers also affects education. Specifically, the difference between these 'good and bad' careers is deeply rooted in people's consciousness, and people's pursuit of good careers intensifies the competition in education.

The damaging consequences of academic stress on Chinese students have been proven in the literature. Hesketh et al. (2010) investigated 2,191 Chinese children aged 9 to 12 years from cities and the countryside and discovered that 81% of these children were very worried about their exams, 63% were afraid of being disciplined by their teachers and 73% were physically punished by their parents for not working hard enough in school. Due to space restrictions and the fact that only 20% to 40% of high school graduates are given a chance to pursue higher education each year (Liu & Dunne, 2009), not all high school graduates have been able to pursue their dream of attending college. Chinese high school students face extreme strain as a result of this intense competition, which affects the country's educational system. As such, the current education system ignores students' learning progress and focuses too much on their exam scores. To vigorously support the country's economic development and construction, Chinese universities have implemented a university expansion policy. As a result of this initiative, the number of people attending universities increased significantly, and higher education expenditures correspondingly increased. From 1985 to 2003, the number of colleges and universities in China increased by 536, among which the number of first-year enrollees increased from 61.9 to 382.2 per 10,000 people (China Statistical Yearbook, 2004). The current assessment system aims to encourage students to study hard and pass their exams. According to reports, children spend most of their time preparing for paper-and-pencil tests. This situation has recently been linked to psychological problems and suicides (Haas et al., 2003). Therefore, schools and teachers must fulfil their responsibilities to these children. Their job titles and sense of accomplishment ultimately depend on the

students' scores and the number of college admissions (Bailey et al., 2010). Fairness in assessing middle school students also needs to be improved, and the university entrance exam system (the current primary assessment system) is likewise flawed. Some individuals have voiced out their concerns about this system's fairness and the equal provision of opportunities to all candidates. Some rural students have yet to be admitted to prestigious universities even if their scores reach the admission line (or even higher than the scores of students living in the city) due to geographical restrictions.

3.9.5. Education involution and parents' anxiety

Many social and economic factors contribute to parents' worries, including unequal distribution of human and material resources in secondary and higher education (Marginson, 2019). The idea that obtaining a decent education will guarantee employment is strongly espoused by the Chinese society, especially among the country's steadily growing middle class (Li, 2021). Substantial salary gaps have been linked to educational credentials (Bobbitt-Zeher, 2007) and the high-stakes *gaokao* that determines students' fate (Yu et al. 2018). According to the Rosenthal effect mechanism, parents have prospects for their children's academic performance, moral characteristics and interpersonal interactions. Appropriate parental expectations can fulfil children's psychological demands, provide them with positive psychological experiences, encourage their learning interest and help them reach their intellectual potential. Children's self-expectations are shaped in part by their parents' expectations (Liu, 2021).

Parents' self-negative sentiments significantly impact the link between their educational accomplishment and their expectations for their children (Kaplan, Liu & Kaplan, 2001). The parents' expectations for their children and how they are transmitted are impacted by their self-perceptions. Parents' and students' motivation and conduct can explain these impacts (Kaplan, Liu & Kaplan, 2001). Parents' high expectations frequently cause their children to rebel, which has a detrimental impact on their conduct in school. According to sociology, parents tend to impose additional demands on their children as a result of the stress and worry they feel whenever their children are being compared with others. Fear of being left behind

motivates children to develop (Garcia, Tor & Schiff, 2013). When a student's psychological capacity is exceeded by comparison pressure, s/he will experience psychological distress. Family relationships, including the degradation of parental relationships, also frequently cause psychiatric problems and life-threatening circumstances amongst students.

Parents' enthusiasm for investigating family capital has persisted despite the strict implementation of the Double-Reduction Policy. Some training institutions have seized the chance to adopt a new identity and conduct training under the guise of high-income household economics whilst processing private tutoring. The General Office of the MOE even acknowledged the importance of dealing with the irregularities in the conduct of discipline-based out-of-school trainings. However, these efforts did not completely eliminate all forms of disguised extracurricular coaching. The implementation of the Double-Reduction Policy did not stop some parents from forcing their children to learn in advance. These parents had to recruit live-in teachers to achieve their goals for their children. Many home economics companies in Shanghai have been launched online to offer at-home tutoring services. Some experienced teachers earned as much as RMB 50,000 a month. Even in the face of the MOE's rigorous crackdown on disguised subject training, some tutoring service providers continue offering their services if they are well paid (Tang, 2021).

Therefore, the sensible family capital investment of parents cannot be easily curbed. Pulling the bottom out is the only way to get parents to change their mindsets and realise that their money and time do not define their children's academic performance, thus discouraging them from investing additional capital in these extracurricular services. Many primary and secondary school teachers have mentioned that teaching is a slow art that requires long-term vision and patience. As the proverb goes, a tree takes 10 years to develop, but a good education programme may take 10 times as long to take hold. Gao (2011) proposed that teaching should have the wisdom of 'waiting quietly for the flowers to bloom'.In other words, Gao advocated against sticking to milestones and testing the effect of teaching by focusing on the immediate future; instead, teachers should wait quietly for their students' sequential growth. In other words, students' development is thick and thin, and the results may take some time to show up. The emergence of certain phenomena, such as tiger parenting and 'do not let children lose at the starting line', indicates a mentality of education for immediate

success among parents. Parents are far from being calm and relaxed when it comes to their children's education. They may be aware of the principle of 'a hundred years of education' and recognise the important role of parent–child relationships in their children's growth. However, they do not want their children to grow too slowly, so much that they would rather spend their money in recruiting training institutions and private tutors to accelerate their children's education and even be proud of such decision. Therefore, achieving quality education is difficult in China's current education context.

4. Core Competency Concepts and Connotations

4.1. Introduction

Following the previous chapter on the challenges of quality education in China, this chapter introduces the concept and content of core competency, which answers the question of what kind of people Chinese education cultivates. It is answering the question of what kind of people Chinese education should cultivate and how to cultivate them. It is an upgraded product of quality education with the times. It has a sound theoretical structure, and the requirements and expectations of students in the three dimensions of cultural foundation, independent development and social participation are all discussed. On this basis, the analytical framework of this study is proposed.

4.2. International Comparison of Theoretical Frameworks of Core Literacy for Student Development

International organisations, countries and regions have established structured core competency systems to promote core-competencies-based education reforms. The structural frameworks of student core competencies in the international arena can be summarised as follows: juxtaposition and interaction, holistic system and concentric circles (Xin & Jiang, 2015). The core competencies constructed by the Definition and Selection of Competencies (DeSeCo) project of the OECD are of the juxtaposition and interaction type. The project argues that individuals need to possess three essential competencies to have a successful existence and live in a healthy society, namely, the capacity to engage with tools in socially diverse groups, the capacity to act independently and the capacity to utilise tools interactively. These competencies can be thought of simply as people and themselves, tools and society. The DeSeCo project was one of the earliest projects to develop a core competencies literacy model for students, and its impact has been extensive. Most OECD members, even some non-members (e.g., Australia, New Zealand and Taiwan), have also adopted this theoretical model to construct localised core competencies.

The structure of the ‘21st Century Core Competencies’ in the United States is holistic

and systematic. This structure, which has been integrated into the 21st century learning system, contains three main components that form a rainbow-like shape. The outside of the rainbow presents student learning performance, whilst the outer ring presents the content of student learning outcomes (i.e. the indicator components of core competency, which include learning and innovation competencies, information, media, and technology competencies, literacy, life and career competencies, all of which describe the information, abilities and career wisdom that children will need for their future employment and lives). The 21st Century Core Competencies are demand driven and have been selected as core competencies for guaranteeing the future of society and lifelong development. They are equally important and do not have a strict logical relationship with one another. Instead, these competencies have an integrated and extensive support system that facilitates their formation. Many demand-driven international organisations, countries or regions, such as the UNESCO and European Union, have likewise adopted this structure.

The Singapore Student Core Competencies Model is structured in concentric circles. The competencies related to self-improvement| and needed for future societies are developed in three dimensions. The core values guiding the other dimensions are central to the concentric circles.

In recent years, the UNESCO, European Union, OECD and other organisations have promoted a future curriculum with competency at its core, which serves as an excellent example of theoretical reconstruction (Liu, 2014). Amongst them, the OECD invited scholars to conduct a nine-year study on “Defining and Choosing Literacy” from 1997 to 2005, attracting widespread attention from countries and regions worldwide. This study addressed four main issues. Firstly, competencies are considered intrinsic prerequisites for individuals to successfully meet the complex demands and challenges in their situations and to perform life tasks in a given context. Secondly, competency is an organically linked whole, of which the attitudinal element is essential. Thirdly, competencies are teachable and learnable and are shaped through acquired learning. Fourthly, core competency focuses on helping individuals adapt to their future roles in society. Through multidisciplinary integration, the OECD has identified the core qualities of being able to use tools in an interactive way, communicate in groups with different personalities and act appropriately and with self-discipline.

By taking into account the connotations of the concept of core literacy as defined by various countries, regions and international organisations, the understanding of core competencies from different disciplinary perspectives and the needs and educational reality in China, in order to meet the demands of lifetime personal and social development, core competency has been defined as the essential characteristics and competences that students gradually build throughout their course of obtaining education. Core competency combines knowledge, skills, emotions, attitudes and values, is process oriented (as opposed to results oriented) and focuses on students' perceptions in their development process. Core competency is also stable, open and developmental, and its generation and refinement are achieved in a process of dynamic optimisation over time. It offers a fundamental guarantee that individuals can learn the necessary skills to secure their roles in the future society and to maintain a lifelong learning mindset (Xin, Jiang & Lin, 2016).

International organisations, countries and regions have launched a wave of educational reforms oriented towards building students' core competency literacy. A summary of the current international consensus on the connotation of the concept of core literacy can help in establishing a framework for core literacy for student development in China. By sorting out various definitions of this concept (Table 2), the global understanding of core competency shows several characteristics.

Table 2. Definition of core competencies by international organisations, countries and regions

International organisation/country/region	Definition
	Core literacy enables individuals to lead good and successful lives. This success is expressed in close relationships with others, economic cooperation and understanding of the self and the world in which one lives, interactions with people and things around the community and sense of fulfilment and pleasure. The nucleus development organizational literacy is inclusive of a diverse range of societies and individuals and answers the question of which types of literacies ordinary people need to survive in their society whilst coping with rapidly changing technological developments.
UNESCO	Core literacies point to lifelong learning and present the five pillars 'learning to know, learning to do, learning to live together, learning to develop and learning to change'. Literacy is a combination of knowledge, skills and attitudes appropriate to a particular

	context, and core literacies are those that children should have by the end of their compulsory education and training period to be able to lead a fulfilling adult life, achieve social integration and secure employment.
United States	Core literacy refers to the competencies required of all students or workers. It is developed to produce individuals with 21st-century work skills and core competencies, ensuring that the skills students learn in school are sufficient to meet the demands of further university study or social employment and to become competent citizens, employees and leaders in 21st century society.
UK	Core literacy refers to the essential skills and qualifications that young people need to learn, live and work to be fit for life in the future. Basic skills are general, and transferable competencies are crucial to a worker's future development. Core skills are the broad, transferable skills required to be a fully active and responsible member of society.
France	The term 'foundation or core of competencies' is used exclusively for subject-based and interdisciplinary literacies in compulsory education, thus emphasising that these literacies serve as the basis for building lifelong learning. The French model of literacy considers that a person's professional competence is inextricably linked to three dimensions, namely, knowledge (savoir), skills (savoir-faire) and social competence (savoir-être). Literacy is a dynamic process of learning, accumulating and transmitting knowledge.
Germany	The concept of critical competencies was introduced from a vocational education perspective, that is, knowledge, abilities and skills that are not directly related to specific professional skills, the ability to make judgmental choices in a variety of situations and the ability to cope with unforeseen changes in a career. These competencies do not easily become obsolete due to scientific and technological progress because of their universal applicability.
Australia	Key competencies, also known as integrated vocational competencies, are necessary for one to effectively participate in developing work patterns and work organisations. The emphasis is not on the knowledge and skills possessed by a particular discipline or vocational area but on the competencies that students need for their lifelong development.
Taiwan, China	Core literacy is the ability to successfully respond to the demands and challenges of a situation within the social and cultural context of Taiwan, successfully complete life tasks and achieve excellent and desirable outcomes. Core literacy is a crucial quality that individuals must possess in society, not only as a necessary quality for personal life but also as a requirement for citizenship in modern society and as an important quality of human capital essential for social development.

Firstly, core competency is generally valued in the contemporary world, and even though some differences can be observed in the definite expressions used in government documents across regions, they all value citizens' key literacy (Lin, 2016). The definition of core competency is generally consistent with its respective national and state characteristics.

Secondly, core competency is a multidimensional and multifunctional concept and is a holistic collection of knowledge, skills, attitudes and emotions that cannot be cultivated or developed individually in isolation, mainly when competency is used as a curriculum objective. Additional emphasis must be placed on its comprehensive and holistic nature. At the same time, core competency can perform multiple functions and are essential to everyone.

Thirdly, core competency can help individuals meet their needs in all areas of life and contribute to their further education, employment, integration into mainstream society, lifelong development and self-fulfilment. Forming core competency is a collaborative and progressive process between individuals and society. Although some differences are observed in the connotations proposed by various governments, they are all integrated and complementary, emphasising that acquiring core competency literacy is a continuous, lifelong learning process. Individuals can effectively develop and enhance their core competency through different stages of lifelong learning. In addition to schools and families, social, cultural, political and religious lives can all shape one's literacy. The development of core competency is not only a result of individual efforts but also requires a favourable social and ecological environment.

4.3. Connotation and Framework of Students' Core Competency in China

Chu (2016) defined core competencies as the critical spirit in quality education. These competencies, which include innovation, information literacy, cooperation, social responsibility, and communication skills, are adapted not only to individual lifelong development but also to social development. Only with these qualities can students successfully adapt to society and contribute to its development whilst achieving self-realisation. Core competencies point the way to a new generation of quality education. To reflect glocalisation, localisation, innovation and democratic literacy need to be enormously strengthened (Chu, 2016). Liu (2014) drew on international research on core competency for student development, analysed the structure of quality and its formation process, clarified the relationship between quality education and the core competency system and provided a scientific account of the teachable, learnable and measurable characteristics of

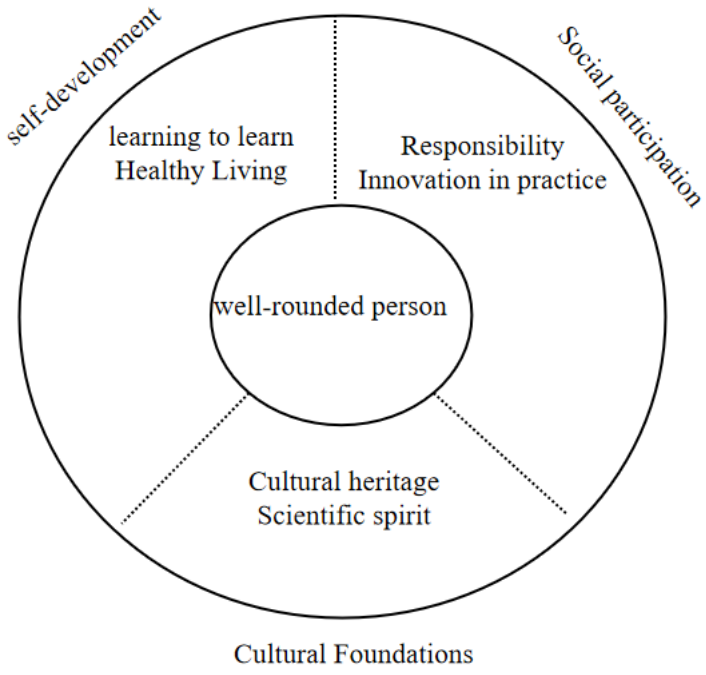
literacy in the hierarchy of quality. Liu (2014) also enriched theory of quality education and clarified the ideas for further promoting quality education. He argued that core competency is the key to achieving quality education in China. Chang (2015) believed that core competency is the basis and core of realising the value of school education and establishing quality standards for talents in China. This type of competency is a system of goals that students must achieve in their development under the guidance of the national education policy. To promote curriculum reform as a whole and improve quality assessment standards through graded assessments, Liu (2014) analysed the connotations, characteristics and value orientation of core competency by sorting out its development history. Qi (2020) proposed a system for students that includes horizontal integration, integration of subject literacy, vertical articulation and construction of vertical education. Lin (2016) argued that the six significant literacies (i.e. humanistic heritage, scientific spirit, learning to learn, healthy living, responsibility and practice and innovation) not only reflect the characteristics and abilities of students who are well-prepared for self-development but also highlight the critical characteristics of core competencies. These literacies are interlinked, complementary, mutually reinforcing and function in different contexts. Student development refers to the core competencies and the important qualities and abilities that children need to have in order to meet the demands of their society and their ongoing development. Core competency concerns students' knowledge, skills, emotions, attitudes and values (Lin, 2016).

By analysing the historical evolution of core competency, other scholars reveal that the general perception towards talent in the East and West has shifted from character to competence. These studies have explored the international consensus on the connotation of core competency, defined its primary purpose for student development, investigated the essential characteristics of commonness, development and plasticity, analysed the international theoretical framework of core competency and defined its academic structure for student development in China. Core competency should include the three aspects of subjectivity, society and culture. The relationship between China's core competency for student development and the Party's education policy, curriculum reform and quality education should also be emphasised (Xin, Jiang & Lin, 2016). Core competency refers to the necessary characteristics and competencies that students gradually form whilst receiving

instruction at the corresponding school level to meet their lifelong personal and social development needs.

Lin et al.'s (2017) findings on core competency are supported by research on educational policy, international comparative research, traditional cultural analyses, curricular standards analyses, empirical surveys and the general framework of Chinese students' core competency system, which comprises six indicators in three significant areas. They initially selected 12 indicators for students and formed a general framework for their core competency development. After several rounds of consultation with experts, they reduced their number of core competency indicators to six. The final core competency framework for student development in China is based on the core concept of a well-rounded person and consists of the three domains of autonomous development, social participation and cultural foundation along with six core literacy indicators (Figure 3).

Figure 3. Framework of the core competency system for the development of Chinese students
Source: Research on Chinese students' core competency (Lin, 2017)



4.3.1. Cultural foundations

As the foundation and lifeblood of humanity, culture strongly emphasises the importance

of gaining knowledge and skills in the humanities and sciences, mastering and using the best human wisdom, cultivating one's inner spirit, seeking goodness, truth and beauty and growing into a person with a diverse cultural background and high spiritual aspirations.

Humanities. To study, comprehend and apply information and skills in humanities, students must possess the necessary abilities, emotional attitudes and value orientations. Humanities involve the fundamental components of humanistic accumulation, sympathy for humanity and aesthetic interests.

Scientific Spirit. Scientific spirit mostly consists of the value standards, mental models and behavioral performance that students develop when acquiring, comprehending and using scientific information and abilities. The fundamentals of logical reasoning, challenging inquiry and brave inquiry are all present in this area.

4.3.2. Autonomous development

Autonomy is a key characteristic of humans as a subject. Self-development emphasises one's capacity to effectively manage his/her learning and life, recognise and understand his/her own value, explore his/her potential, respond to complex and changing situations in an effective manner, live an extraordinary life and grow into a person with a defined life purpose and a high quality of life.

Learning to Learn. This component refers to the overall effectiveness of students in developing their learning awareness, selecting learning strategies and evaluating and managing their learning process. Learning to learn covers crucial ideas, such as enjoying education, actively reflecting on one's learnings and being informed.

Healthy Living. The main focus of healthy learning is on students' all-around performance in understanding themselves, developing their bodies and minds and planning their lives. This component includes the essential elements of cherishing life, integrity and self-management.

4.3.3. Social participation

People need to be sociable. The importance of social participation is highlighted by the need to be able to manage one's relationship with society, create moral standards and conduct that contemporary citizens must adhere to, foster a sense of social responsibility, build an innovative and practical spirit, realise one's own values, achieve social development and progress and promote the growth of idealistic, responsible individuals.

Responsibility. Responsibility refers to students' emotional attitudes, values and behaviour in dealing with the society, the country and the world. This component includes the essential elements of social responsibility, national identity and international understanding.

Innovation in Practice. Innovation in practice refers to students' practical skills, creative awareness and behaviour in their daily activities, their problem-solving skills and their adaptation to challenges. This component includes the essential elements of work awareness, problem solving and technology application.

4.4. Analytical Framework of the Study

An analytical framework (Figure 4) was created based on the aforementioned ideas. Although this framework tries to aid in understanding previous research on student burden, several other concerns warrant careful consideration.

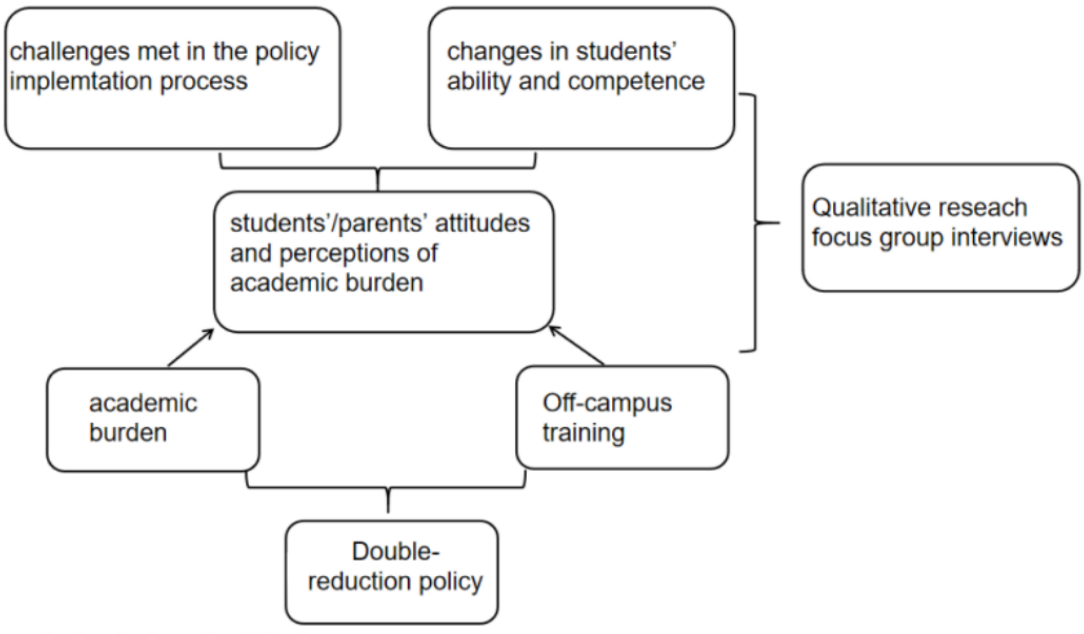


Figure 4 Conceptual framework: Students'/parents' perceptions and experiences of quality

education and core competency under the Double-Reduction Policy in China
Source: Author's own contribution

Firstly, previous studies have identified homework as the primary source of academic burden. Accordingly, these studies have quantitatively analysed the amount of homework assigned to students in certain subjects. By contrast, academic responsibility includes specific assignments, students' mental stress, parent and teacher expectations and peer evaluations. Several studies have focused on the extrinsic physical reasons that affect the reduction of academic burden, such as age, gender, sleep time and myopia levels. However, they have ignored students' emotional attitudes and learning experiences. In other words, the intrinsic voices and needs of these students should be considered to reduce their academic burden.

Secondly, previous studies have revealed the differential nature of academic burden. The people's perceptions towards academic burden also vary according to their group (Ke, 2013). Around the issue of schoolwork burden itself, there are differences between subjects and mental activity burden (Zhu, 2019), thereby suggesting that a high-class academic responsibility does not mean that all issues are overloaded with class work and that there is a high burden of memory but a low commitment to imaginative, logical and creative thinking.

Thirdly, students show differences in their academic responsibilities depending on their school level, areas of residence and learning level. The reasons behind such variability have been largely overlooked in the literature. The thoughts of students' parents have also been ignored.

Fourthly, although the series of burden-reduction policies introduced in China's education reform have not entirely changed the reality of students' burden, how the new Double-Reduction Policy introduced in 2021 has started breaking through this bottleneck and approaching a critical point in promoting a balanced education and changing the education ecology from the institutional level presents an interesting topic. Therefore, the experiences of students in this new context warrants further investigation.

4.5. Summary

Academic stress in China has been investigated by scholars for a couple of decades (Kleinman, 1982). However, only few of these studies have investigated such phenomenon from the students' perspective. Specifically, relatively few researchers have looked into how contextual elements (e.g. views, attitudes and learning experiences) influence Chinese students' stress and dealing with mechanisms concerning their academics. Chinese students' academic pressures and coping mechanisms in the context of the Double-Reduction Policy have also received minimal attention. To further understand how academic pressure influences Chinese students and how individual (student) characteristics modify these interactions, this thesis mainly aims to explore how to cope with academic stress and how to acquire critical competency in China. An investigation into these topics is particularly important given that students with various perceptions, emotions and learning experiences show variations in their academic stress levels and coping mechanisms. A further exploration of these topics may be of interest for Chinese education policymakers who formulate ideas on how to operate the educational system to support students' emotional growth and academic achievement.

Another objective of this article is to create a conceptual framework for understanding the connections between academic stress and coping amongst Chinese school-age children. This framework may assist future scholars in investigating the stress and coping mechanisms connected to academics in China. The impact of academic pressure on students' physical and emotional health has been previously investigated using quantitative methodologies. Some studies highlight differences in the experiences of secondary school students with academic burden. Other researchers have looked into ways to favourably adjust Chinese students, such as by implementing quality education techniques and measures to reduce their academic load. However, the relationship between academic stress and coping has been largely overlooked. Whilst many quantitative studies have explored those external factors that influence academic stress, only few have explored academic burden from the students' perspective. It is also necessary to investigate what a lower academic load implies for students and how burden-reduction strategies will influence them. This research aims to close these gaps by presenting actual evidence.

5. Methodology

This chapter discusses the approach used to develop this thesis, explicitly raises the three aspects of the research problems and explains how qualitative research approaches can address the research questions. Discussions on study site selection and justifications, recruitment of participants, data collection and analysis and data validity are also presented.

5.1. Research Design

According to social scientists, people engage in subjectively meaningful behaviour in their social environment, and meanings are only interpreted with context. This branch of social science, known as interpretivism, believes that social reality is produced and can only be comprehended and valued in the context of circumstances and individuals in their natural environments. To analyse social reality, interpretivism introduces inductive theory.

To respond to inquiries about experience, meaning and viewpoint, qualitative techniques are typically considered from the participants' point of view. These data are usually uncountable and unmeasurable. Some examples of qualitative research approaches are in-depth interviews that aim to understand a condition, experience or event from a personal perspective, small-group discussions that examine beliefs, attitudes and concepts of normative behaviour from a background information or institutional perspectiveand analysis of texts and documents, such as government reports, media articles and websites (Hammarberg et al., 2016).

This study adopts a mixed methods design. According to Derry and Miller (2016), the mixed methods approach enables researchers to investigate the problem entirely using quantitative techniques (to establish the relationship between frequencies and variables) and qualitative tools (to shed light on the issue's significance) (Csutora et al., 2021). This approach can further explain how students and parents perceive the post-Double-Reduction Policy academic burden and the various factors that reduce such burden. Similarly, this approach reveals the feelings and learning experiences of students in an ordinary public middle school in Shenzhen, a first-tier city, after the implementation of the Double-Reduction

Policy, the factors that affect the reduction of these students' academic burden and the reactions of children and their parents to the modifications resulting from the implementation of this policy.

This paper specifically adopted an explanatory sequential design, which Creswell and Clark (2006) described as a two-phase mixed methods design that starts from gathering and analysing quantitative data and is followed by the collection and analysis of qualitative data. The participants were selected based on the collected quantitative data. To conduct a thorough qualitative study, only those people whom the researcher could follow up with were targeted as participants (Creswell & Clark, 2006). The mixed methods research design is simple to implement given that each stage of the study is conducted individually and in order, thus making this approach appealing to quantitative researchers (Creswell & Clark, 2010).

A case study is a comprehensive inquiry into a person, a group of people or a unit with the goal of extrapolating across several units (Gustafsson, 2017). A case study is often referred to as an in-depth, methodical review of an individual, group, community or other entity in which the researcher examines data relevant to several issues (Woods & Calanzaro, 1980). Researchers explain how case studies investigate complicated phenomena in the context of the natural world to deepen their knowledge of these issues (Hamel & Dufour, 1993). Shenzhen is China's first special economic zone whose basic education is governed by a large and complex system. This study selected a general secondary school in Shenzhen as an example to provide a reference for the innovation of the education system of first-tier cities and other areas in China.

5.2. Research Objectives and Questions

The purpose of this study is to investigate the thoughts and perceptions of Chinese secondary school students in relation to the Double-Reduction policy. Specifically, this study seeks to understand how secondary school students cope with the changes in their academic burden and the perceptions and responses of their parents.

Parents in first-tier cities are particularly serious about their children's education, and most of them are in a state of tiger parenting (*jiwa*) and refuse to let their children 'lose at the

starting line'. These parents insist on building the education of their children. Therefore, how did they cope with the fact that their children could not attend out-of-school trainings after the Double-Reduction Policy was implemented, and how did their mindsets change in a system where primary education is still mainly based on exams to select talents? How do they perceive the relationship between reducing academic burden and practicing quality education? Have their expectations of their children's education changed without any change in the education evaluation system? As a front-line teacher with a close relationship with students, the researcher often hears students lamenting why they still receive much homework after the implementation of the Double-Reduction Policy. When talking to their peers, some students share that they continue taking online tutoring courses and make some comments about the Double-Reduction Policy. These students provide the most direct and authentic feedback on the policy. Therefore, as its central question, this study asks, "What are Shenzhen junior high school students' and their parents' attitudes and perceptions towards the Double-Reduction Policy?" This question can be further subdivided into the following:

1) What challenges did Shenzhen junior high school students face after the implementation of the Double-Reduction Policy?
2) What were the changes in these students' abilities and competence after the implementation of the Double-Reduction Policy?

5.3. Data Collection and Participants

In order to respect the privacy of the student participants, the name of the selected school was kept anonymous throughout the study. Located in the central district of Bao'an in Shenzhen, Guangdong Province, the selected junior middle school was founded in September 1994 and is operating under the Education Bureau of the Bao'an District. The school has about 1,500 students in 3 grades.

Table 3. Interview participants (S = Student; P = Parent)

No.	Student	Gender
1	S01	F

2	S02	M
3	S03	M
4	S04	F
5	S05	F
6	S06	M
7	S07	M
8	S08	M
9	S09	F
10	S10	M
11	S11	F
12	S12	M
13	S13	M
14	S14	F
15	S15	F

No.	Parents	Gender
1	P01	M
2	P02	F
3	P03	F
4	P04	M
5	P05	M
6	P06	F
7	P07	M
8	P08	M
9	P09	F
10	P10	F
11	P11	M
12	P12	F
13	P13	M
14	P14	F
15	P15	F

As mentioned above, the mixed methods approach was adopted to collect and analyze the data (Creswell & Clark, 2017). Integrating qualitative and quantitative data provides a deep understanding of students' perceptions toward the Double-Reduction Policy and its impact on their development. The collected data were triangulated using the qualitative approach.

Two data collection methods were used. Considering the similarities and differences in the perceptions of students across different schools and families, student-centred education theory was adopted in this paper. The questionnaire items were designed around the research

questions. Sample items include ‘Do you have less homework under the Double-Reduction Policy’, ‘Do you have more spare time’, ‘Are you taking fewer exams’, ‘Has your sense of ranking by test scores waned’ and ‘Do you have less after-school tutoring?’ In the quantitative study, a survey questionnaire was designed to verify the hypothesis related to changes in academic burden after the implementation of the policy. The questionnaire was designed based on the conceptual framework and used a five-point Likert scale to measure the participants’ perceptions towards and experiences with the Double-Reduction Policy.

The WJX.cn programme was used to generate a QR code that leads to the online questionnaire. This questionnaire included questions related to the participants’ demographics and a series of measurements evaluating other components. Given that the questionnaire was filled out by students, their ability to understand the questionnaire items were taken into account during the design. These items were phrased in plain language as much as possible, and the participants were given multiple choices for each question, thus reducing the need for them to write Chinese characters by hand. The questionnaire’s content should not be too long to maintain the participants’ interest in completing the questionnaire and save time. To ensure the practicality and rationality of the questionnaire design, relevant theoretical foundations were combined, the questionnaire was pre-tested twice and teachers and participants were consulted for their feedback. The pre-test results and feedback were then used to revise the questionnaire repeatedly until the final version was obtained.

The questionnaire was designed based on the objectives of the Double-Reduction Policy and was used to measure students’ burden perceptions, interests and core competency. The questionnaire items mainly focused on the changes in these students’ perceptions towards academic burden after the implementation of the policy, the effect of the changes in their off-campus trainings, the changes in their family environments and relationships and their perceptions towards their core competencies. Each item was rated on a five-point scale extracted from the literature. The survey opened with demographic questions (e.g. age, sex and grade) to collect data on the participants’ background characteristics. The contents of the questionnaire are shown in Appendix A.

5.3.1. Sampling

In purposive sampling, the researcher aims to pick a specific number of participants that are pertinent to the issue being explored (Bryman, 2015). Students of different ages have various understandings of and experiences with learning burden. For example, seventh graders or freshmen are curious about the junior high school life, eighth graders are already adjusted to such life and ninth graders face huge pressures from their middle school entrance exams. To understand the feelings and experiences of students in different grades, 200 students from grades 7, 8 and 9 were randomly selected as the survey participants, amounting to a sample size of 600 (Table 3),and eventually 304 questionnaires were completed. Given that the researcher also works as the teacher of these students, the characteristics and study habits of these participants were examined via daily observation. In addition, 15 students and their parents were invited to an in-depth interview.

5.3.2. Questionnaire

The quantitative approach is usually adopted to find questions and generalise conclusions. As one of the most commonly used quantitative methods, a questionnaire is a written material distributed to all participants to obtain information about their characteristics, experiences and views, which are deemed representative of the selected population (Ritchie & Spencer, 2002). A questionnaire is mainly adopted in three cases: 1) when conducting large-scale factual investigations aiming to show what things actually are; 2) when the data to be collected will be used to measure the state and relationship of a series of variables; and 3) when the researcher cannot contact every participant and when the collected data are not personal in nature (Feng, 1989). The students' essential information, including their school, grade and gender, was initially obtained. Afterwards, the current situation of their objective academic burden was explored based on specific criteria in learning inside and outside schools. The overall condition and characteristics of their academic load and its influencing factors were then analysed statistically.

5.3.3. Interview

In-depth interviews were conducted to examine how Chinese secondary students' perception of China influences their further study and the implementation of quality education. The interviewees were recruited from the survey participants who expressed their willingness to participate in the interviews. Each interview lasted for around 30 minutes. The interview protocol was reviewed and approved by the Lingnan University Review Board.

As a supplement to questionnaire surveys, an interview can obtain detailed information from the participants and play a significant role in managing subjective and authentic materials. To determine the students' and parents' personal feelings and views about academic burden and to further understand the implementation of student core-competency-based education, 15 junior high school students were randomly invited to participate in the interviews along with their parents.

The interview questions for the parents focused on their views and attitudes towards the Double-Reduction policy and core competency. For instance, they were asked for their opinions about their children having less homework, the management of their students' extra after-school time and the amount of homework, tests and after-class tutoring attended by their children. Meanwhile, the interview questions for students mainly revolved around their perceptions and feelings about having less homework, their inability to attend after-class trainings, their learning ability and their hobbies. The in-depth interviews were conducted in Chinese in a friendly, relaxing atmosphere to avoid misunderstandings and build mutual trust. After securing the participants' permission, each interview was recorded to analyse the conversations thoroughly.

All interviews were recorded on site and were immediately transcribed and proofread to obtain textual information. The interview data were coded based on international experience, the current situation in China and theories about children's competency development. A preliminary coding system was established through the original coding and text analysis of the 30 interview texts. All these texts were processed according to the initial coding scheme.

5.4. Data Analysis

Thematic analysis is mainly used in qualitative data analysis by identifying essential themes. This relatively dispersed method only has a few commonly accepted guidelines for determining central themes in data (Braun & Clarke, 2021). This method of segmenting raw data facilitates the identification of themes, patterns, trends and differences across cases.

Thematic coding is the most crucial phase in thematic analysis, and researchers employ various methodologies for coding. Standard coding techniques include the zigzag approach, open coding and a combination of indicative and deductive coding. These techniques are known to be intricate and dialectical (Franklin, 2012). For instance, the zigzag method repetitively analyses the themes and data until they reach saturation. Several rounds of data collection and analysis are typical in qualitative data analysis.

Given that qualitative data analysis necessitates numerous iterations of data gathering and research, the data for this study were initially open coded and categorised line by line and phrase by sentence. Instead of summarising the data sentence by expression, they were summarised from a complete paragraph perspective, which allowed the researcher to immerse in the facts and treat all data equally. Inductive and deductive coding were applied for this purpose. By carefully reading the context and focusing on native notions (i.e. concepts that often arise from the context), such as ‘involution’ and ‘mixed feelings’, the researcher identified themes whilst placing labels in the context by using the inductive approach. The similarities that surfaced in the context of related research and the theoretical framework were then identified using the deductive approach.

The average altitude point was then calculated to indicate the participants’ attitudes towards each statement. In the Likert scale, 5 indicates ‘strongly agree’, 1 indicates ‘strongly disagree’ and 3 indicates ‘neutral’. The interview transcripts were stored, cleaned, organised and coded for themes using the NVivo software.

5.5. Research Ethics

Some risks were involved in this study, albeit at a low level. The attitudes and perceptions of the participants towards academic burden, participation in off-campus trainings, parent–child relationships and hobbies are sensitive in nature, and asking for such data may be in violation of the participants' privacy. In this regard, these participants may show ambivalence and psychological issues. A feeling of inferiority may also emerge as a result of the cognitive and skill differences between the participants and the researchers. Divulging their views and perceptions towards school assignments may also influence their teachers' evaluations. In addition, the divulgence of the information of students' parents may cause the identification of students will be recognized.

In view of the above risks, several steps were taken to protect the participants. Firstly, all the data were acquired digitally. Secondly, the participants were advised that the inquiry would be conducted anonymously and that all collected data would be treated in the strictest confidence and would be coded and processed anonymously. Third, to minimise privacy invasions, only information pertinent to the communication's intended use was collected to protect the disclosure of the participant's judgments. Fourthly, the study was conducted in a comparatively secure and autonomous setting one step at a time.

The participants were also informed that the sensitive information, choices and impressions they shared would be disclosed for legitimate scientific or professional reasons. Their pertinent data and information were stored in a password-protected computer file that would be deleted three years after the study. The researcher also agreed not to publish in writings, lectures or other public media any confidential, personally identifiable information about the participants unless they have consented in writing or there is an ethical or legal justification present for publishing such information. Any information used to identify the participants would not appear in written or spoken reports. Their consent forms and coded statements would be retained separately. These participants were also informed that in the following scientific and professional presentations, their sensitive information would be obfuscated so that they would remain unidentifiable. They were given the right to withdraw from the research at any time, and their personal information and shared data would be deleted accordingly.

A permission form with specific risk-related information would be presented to the participants before the data collection. They were also asked for their consent before they were asked for some private information. The investigation would not push through if they refuse to give such consent.

6. Findings

This section introduces the themes that emerged from the qualitative data about the perceptions and feelings of Shenzhen secondary school students and their parents about the Double-Reduction Policy.

6.1. Survey Participants' Profile

Table 4. Survey participants' profile

Category	Total	Proportion
Gender		
Male	160	52.63%
Female	144	47.37%
Valid number of participants	304	
Age		
13–14	182	59.87%
14–15	109	35.86%
15–16	13	4.28%
Valid number of participants	304	
Grade		
7	79	25.99%
8	122	40.13%
9	103	33.88%
Valid number of participants	304	

6.2. Survey Results

The following table presents the results of the questionnaire survey.

Table 5 Results of the questionnaire survey

Category	Total	Proportion
Valid number of participants	304	
Study pressure reduction		
Strongly Disagree	36	11.84%

Disagree	46	15.13%
Neutral	128	42.11%
Agree	62	20.39%
Strongly Agree	32	10.53%
Positive attitude		
Strongly Disagree	13	4.28%
Disagree	14	4.61%
Neutral	123	40.46%
Agree	101	33.22%
Strongly Agree	53	17.43%
Less time for off-campus tutoring		
Strongly Disagree	36	11.84%
Disagree	23	7.57%
Neutral	118	38.82%
Agree	58	19.08%
Strongly Agree	69	22.7%
Sufficient time for hobbies		
Strongly Disagree	40	13.16%
Disagree	47	15.46%
Neutral	98	32.24%
Agree	70	23.03%
Strongly Agree	49	16.12%
Improved problem-solving ability		
Strongly Disagree	19	6.25%
Disagree	26	8.55%
Neutral	128	42.11%
Agree	85	27.96%

Strongly Agree	46	15.13%
Improved independent thinking ability		
Strongly Disagree	8	2.63%
Disagree	13	4.28%
Neutral	115	37.83%
Agree	114	37.5%
Strongly Agree	54	17.76%
Master health habits and lifestyles		
Strongly Disagree	11	3.62%
Disagree	10	3.29%
Neutral	113	37.17%
Agree	105	34.54%
Strongly Agree	65	21.38%
Better relationship with parents		
Strongly Disagree	23	7.57%
Disagree	33	10.86%
Neutral	138	45.39%
Agree	64	21.05%
Strongly Agree	46	15.13%
Responsible, courageous and accountable		
Strongly Disagree	7	2.3%
Disagree	5	1.64%
Neutral	91	29.93%
Agree	129	42.43%
Strongly Agree	72	23.68%
Awareness of environmental protection		
Strongly Disagree	6	1.97%

Disagree	3	0.99%
Neutral	66	21.71%
Agree	120	39.47%
Strongly Agree	109	35.86%
Improved education situation		
Strongly Disagree	22	7.24%
Disagree	32	10.53%
Neutral	135	44.41%
Agree	74	24.34%
Strongly Agree	41	13.49%

Amongst the 600 questionnaires distributed, 304 were deemed valid. Table 6 shows that as a result of the Double-Reduction Policy, 42.11% of students felt that their pressure of learning was reduced, 40.46% developed positive learning attitudes and strong interest in learning, 38.82% experienced less out-of-school trainings and 32.24% felt that they had enough time to develop their hobbies. In terms of learning to learn and think independently, 37.83% of students held a neutral attitude, and 37.5% held an agreeable attitude. With regard to attaching importance to mastering one's exercise methods and skills and developing healthy and civilised habits and lifestyles, 37.17% of students held neutral attitudes, and 34.54% held agreeable attitudes. With regard to having improved relationships with parents, 45.39% held a neutral attitude. When they were asked whether they are responsible, courageous and responsible for themselves and others, whether they love and respect nature and whether they have a green lifestyle and an awareness of protecting the environment, 42.43% and 39.47% of the students expressed neutral and positive attitudes, respectively. Meanwhile, 44.41% agreed that the Double-Reduction Policy improved their learning situation. These data collectively show that the Double-Reduction Policy has benefited students by reducing their academic burden. However, most of these students shared neutral responses when asked about their positive attitudes towards their learning, independent

thinking, problem-solving skills and relationships with parents. Accordingly, these responses warrant further exploration.

6.3. Perceptions of Secondary Schools Students Towards the Double-Reduction Policy

6.3.1. Study pressure

6.3.1.1. Decreasing study pressure

Some students felt less pressure to study after the implementation of the Double-Reduction Policy as reflected in their reduced amount of homework. One interviewee mentioned that the time needed to finish homework was also reduced as a result of the policy: ‘After the Double-Reduction Policy, the amount of homework I have felt reduced, and the pressure has become much lighter. Usually, I might have to work until midnight, but now I can finish it at 10 pm’ (SF01).

These students also felt less pressure due to the reduced number of exams. One interviewee stated, ‘After the Double-Reduction policy, schoolwork has been reduced, and the demands on us to study are less harsh. So, the pressure to study has gone down. In addition, the number of examinations organised by the school has also decreased, and then the rankings are no longer arbitrarily published to the public’ (SM08).

6.3.1.2. Increasing study pressure

However, some respondents felt that their pressure to study increased after the Double-Reduction Policy was implemented. One interviewee shared, ‘Before and after the Double-Reduction Policy, my study status did not change much. Instead, there would be more homework than before’ (SM07). Although these students did not directly state their reasons for the increased pressure, their sentiments were shared by those participants who held mixed feelings towards the policy.

6.3.1.3. Mixed feelings about study pressure from tests, competitions and expectations

Some interviewees held mixed feelings about their pressure to study, which they claimed was always complicated by exams, competitions and parental expectations. Firstly, these students felt pressure from their secondary school exams. In China, secondary school exam scores directly determine which high school a student can enter. One interviewee shared that 'the amount of homework is reduced in individual subjects after the Double-Reduction Policy, but most subjects have not changed much. The pressure to study mainly increases during the mid-term examination' (SF02).

Secondly, peer competition is another source of pressure. Given that not all students can pass the exam to enter a public high school, the peer competition amongst them is particularly intense (SM05). Data from previous years show that the acceptance rate of students in Shenzhen public secondary schools is less than 50% (SZGOV, 2021). One interviewee mentioned, 'my study status has not changed much. Although there is a reduced amount of homework, the pressure is still the same as before the Double-Reduction Policy. Because the "involution" phenomenon can be seen in the classroom every day, the pressure did not change much' (SM11). 'Involution' here refers to the fact that some students secretly and regularly visit the library to study the critical points in their textbooks in advance during weekends.

Thirdly, the expectations of parents on their children's academic performance can add to the stress felt by students. Some parents set personal educational goals for their children, such as how many marks their children need to achieve in the next exam. One interviewee shared, 'after the Double-Reduction Policy, the amount of homework in school has decreased, but the pressure to study may have increased. This may come partly from the expectations of their goals and their parents' expectations' (SF15).

In sum, some students felt less pressure to study after the Double-Reduction Policy, whilst others shared complicated feelings because the examination system, specifically the secondary school exams, remains dominant in China and because the policy lacks a reasonable student evaluation mechanism. The present education evaluation method is still based on test scores, promotion rates and secondary and high school exams. In a social screening mechanism where 'academic qualifications' and 'higher education rate' are paramount, students and parents actively seek excellent academic qualifications and

prestigious schools, whilst schools seek to increase the scores of their students. This orientation needs to be reversed (Ma & Zheng, 2022). Whilst the above arguments are consistent with the participants' claims, these students also acknowledged peer-to-peer involution, their education goals and their parents' expectations as significant causes of academic stress.

6.3.2. Perceptions of the state of learning

6.3.2.1. Improving

Some students felt that the Double-Reduction Policy stabilised and improved their learning, reduced their academic burden, increased their learning motivation and improved their learning ability. One interviewee stated, 'we are more active and motivated to learn and more enthusiastic about our studies and have greater expectations of our studies' (SM04).

6.3.2.2. Falling behind

Some students felt less optimistic and anxious about their studies because of the upcoming mid-term exams. With less homework and practice, they felt that their exam scores would not be ideal. One interviewee shared, 'less optimism, less homework, less practice after more stress, and then feeling that the exams were not ideal' (SF05).

The Academic Test for the Junior High School Students (z*hongkao*)[2] is an essential and comprehensive test for every junior high school student in mainland China. Students need additional training and practice for their least-favorite subjects to perform well in the exam. One interviewee said,

> I did not go for this kind of external training before and felt that there was not much change. However, after junior year, individual off-campus training needs to

[2] The Academic Test for the Junior High School Students is an examination that evaluates whether junior high school graduates have reached the junior high school graduation level. This exam is a necessary condition for the issuance of junior high school diploma. This exam is held after the college entrance examination, and the specific time is determined by each testing location.

improve, and some grades need to self-study for the Chinese exams. For example, you can attend classes to improve your physics. But after the abolition of external training, you can only rely on yourself to study outside of class. This is the same as saying that apart from what you learn at school, you can only learn some things by yourself, and you don't have to ask a teacher in the training centre to guide you, which will definitely affect your ability to improve your studies. (SF02)

6.3.3. Learning attitudes and interest

6.3.3.1. Increased learning engagement: Enthusiasm, interest and accomplishment

Some students felt that their attitude and interest in learning improved after the Double-Reduction Policy. One interviewee shared, 'I have a more positive attitude towards learning and have learnt the habit of taking notes and checking my work. I have greater enthusiasm and interest in learning and am more actively engaged in my studies' (SM04).

Other students are willing to engage in learning activities that expand their horizons and high-order thinking. For example, some are willing to take the initiative to read after class and study practice problems that require thinking. One interviewee mentioned, 'after the Double-Reduction Policy, I listened carefully in class, I have reviewed carefully after class and I have done my homework carefully. Before the Double-Reduction Policy, I don't spend much time on my homework. But now, I read more literature and develop my interest in reading' (SM08).

Some students are willing to improve their hands-on skills and practical abilities. One interviewee shared, 'I feel that my attitude towards learning has not changed much, but I may have extra time to do experiments like physics, and then I will be more interested in it' (SM09).

6.3.3.2. Decreased learning interest

The attitude and interest of some interviewees in learning have worsened after the policy. One interviewee claimed, 'I think my attitude towards learning is still rather negative, and I

have little interest in learning, so I think I need to improve my attitude towards learning' (SF06). Some students believed that the amount of their homework in science subjects decreased as a result of the policy, that they had less time to think for themselvesand that they lacked the autonomy and initiative to learn. One interviewee shared,

> My attitude towards learning may have decreased under the Double-Reduction Policy because there may be less homework, so my attitude towards learning will be more relaxed. As a result, I only think a little about science subjects that require a lot of brain power, but I still take my arts subjects seriously, such as memorising and reciting. So, my interest in learning is still following my own habits. (SF10)

6.3.4. Changes in ability to analyse problems

Improving: Creative thinking and facing challenges. Most students thought that their ability to analyse problems had increased after implementation of the Double-Reduction Policy mainly because of their holistic thinking about learning. As one interviewee shared,

> My ability to analyse problems has gone from the micro level to the macro level, and I am no longer troubled by the limitations before the straight line. For example, mathematics is not just about looking at how a problem is solved but is about seeing the model behind the problem as a whole or thinking about the solution rather than just solving the problem for the sake of solving it. (SF04)

After the implementation of the policy, the students' thinking became highly transferable. For example, some students developed their problem-solving ability by applying the same examples. Some students also focused on learning by example (SM14).

Other students felt an increased willingness to think after the implementation of the policy. One interviewee shared, 'I do not think that my ability to analyse problems has changed much, but I am more willing to think now' (SF12).

Given that learning has become highly autonomous, the students felt inclined to challenge themselves by studying complex topics. One interviewee said, ‘to improve my ability to analyse problems, I sometimes try to solve some problems in the final exams because I have to take the mid-term exams. For example, in math, I would try to solve the most difficult question by applying formulas. Then in physics, I would buy a physics lab kit and do my own experiments at home’ (SM10).

Decline: Fewer practice leads to decelerated thinking. Some students felt that their ability to analyse problems had decreased after the Double-Reduction Policy as a result of having less practice. Some students were even unwilling to go into the questions (SF05). As one interviewee mentioned, ‘I feel that my ability to analyse problems has decreased, such as in math, because there are fewer questions to practice with, and my thinking skills are not as quick as before’ (SF08).

6.3.5. Spirit of exploration

Regarding the spirit of exploration, some students felt that their hands-on skills had increased. One interviewee claimed, ‘I feel that my spirit of exploration has also increased to a certain extent’ (SM01). Some students spent their additional time doing science experiments, whilst others used this extra time to expand their knowledge. After the implementation of the Double-Reduction Policy, these students had more time to read books outside class and think about their philosophical content (SF08). Some students also felt more energy to challenge themselves by solving the most difficult questions in their exercises (SF14). One interviewee shared, ‘I think that my spirit of inquiry has increased. I am more willing to go to the teacher’s office to ask difficult questions after class’ (SM12).

However, some students felt that their spirit of inquiry stayed the same. One interviewee stated, ‘there is probably not much of an inquiring spirit about learning because I just get by with the questions I don’t understand. I don’t think it’s necessary to go deeper into it’ (SF06).

6.3.6. Independent learning ability

6.3.6.1. Increasing: Change in learning methods

Most students felt that their ability to study independently had increased after the implementation of the policy mainly because they had more time for independent study. One interviewee mentioned, ‘after the Double-Reduction Policy, we had more time after school. We can then do independent thinking’ (SF15).

Other students pointed out that their ways of independent learning also changed. For example, these students actively approached their teachers when solving difficult problems and often communicated with their peers to discuss their learning. One interviewee said, ‘my independent learning has improved mainly by actively asking the teacher questions at the end of the class, discussing and interacting with others and making progress with my peers’ (SM08).

6.3.6.2. Need to improve: Self-motivation

Some students felt that their independent learning skills still need improvement. Firstly, due to their reduced amount of homework, some students felt too lazy to engage in additional schoolwork. One interviewee shared, ‘given that we had less homework after the implementation of the Double-Reduction Policy, there may be times when we would just relax and focus less on our learning. As a result, our ability to learn independently will decline’ (SM02).

Secondly, some students thought that having less homework reduced their self-motivation to study. One interviewee mentioned, ‘sometimes we are less self-motivated to study, so we will save some time doing something meaningful’ (SF03).

6.3.7. Ability to live a healthy lifestyle

After the implementation of the Double-Reduction Policy, the students felt that their lifestyles became healthier for several reasons. Firstly, these students were given enough to engage in outdoor sports. One interviewee mentioned, ‘with my healthy lifestyle, I often go

out and do many outdoor activities, such as running, skipping rope and so on, which makes my body healthier' (SM06).

Secondly, most students thought that they would be able to sleep better after the implementation of the policy. Two interviewees remarked, 'we could ensure the quality of our sleep' (S07) and 'after the reduction in our homework, our quality of sleep was improved, which was conducive to improving our healthy lifestyle' (SF08).

Thirdly, some students felt closer to their families after the implementation of the policy as they had more time to spend with them and exercise together. One interviewee shared, 'because of the Double-Reduction Policy, I have less homework every day, so I have time to go out for a walk with my parents or go for a run by myself, and I think my healthy lifestyle has also improved' (SF01).

Finally, other students believed that physical exercise contributed to mental changes, such as increased willpower and the ability to face their academic lives positively. One interviewee shared, 'after the Double-Reduction Policy, I have more time for physical exercise, and I can increase my willpower and positively change my mindset' (SM02).

6.3.8. Supplementary effects on learning

6.3.8.1. Decreasing academic burden

When asked about the supplementary effects of the Double-Reduction Policy, some students mentioned that the policy reduced their pressures of studying. They were given more time to develop their hobbies and change their learning styles. One interviewee shared, 'the Double-Reduction Policy is good. It can effectively reduce the pressure and burden on students and reduced our homework so that we can have more time to improve our talents' (SF04).

6.3.8.2. Decreasing independent learning ability

Other students felt that the Double-Reduction Policy was both beneficial and detrimental to their studies. On the one hand, with reduced homework, these students' interest and

initiative in learning increased. On the other hand, those students with poor independent learning instead used their spare time to relax, watch TV and play games. Due to the cancellation of off-campus trainings, these students need to know what kind of help they should seek out to solve their learning difficulties. One interviewee shared,

> I think that the Double-Reduction Policy has pros and cons. The pros are that you can relax your mind, develop your interest in learning and increase your extracurricular knowledge. However, I am the kind of person who is not strong enough to discipline myself and lacks self-control in learning. After finishing my homework, I may go for entertainment, such as playing games and watching TV, because off-campus trainings are all cancelled. When my independent learning ability decreases, I may not grasp some knowledge points well, and I don't check these gaps in time, so my grades sometimes drop. (SM02)

To cope with their confusion and helplessness, many students expressed their need for off-campus trainings. One interviewee shared,

> The Double-Reduction Policy might have reduced my pressure, but the abolition of off-campus trainings deprived me of one of the ways I can go about learning. The abolition of these activities may reduce the amount of learning I can do because whilst I may not be able to learn something from school, I can learn it from out-of-school trainings. We can bring back the out-of-school trainings. (SF06)

Some students felt that they needed specialist help (SM07), whilst others claimed that each student has different learning abilities (SF09). They relied on off-campus trainings as a way to learn (SM04). Some students still have a high demand for tutorial classes to improve their learning situation. According to Xiong (2021), after-school school services must be tailored to the local context and should not adopt a 'one-size-fits-all' approach.

6.3.8.3. The extent of reduction needs to be considered

Some students mentioned that reducing the number of tests would be ideal (SM05). However, if the number of tests was reduced too much, then they may demand for more timely feedback on their learning, which would be less conducive to their mastery of knowledge, thus reducing their independent learning ability. The level of reduction also needs to be differentiated due to the differences among secondary school subjects and the knowledge mastery levels of students. For example, students need to focus on certain math problems to improve their answering speed. Their lack of practice on these math problems may regress their overall math performance (SF08) and eliminate their other spirits of learning. Other students also demanded for more homework. How to scientifically reduce students' academic burden and keep it within a reasonable range poses a real challenge to school education (Zhou & Qi, 2022).

6.3.8.4. Peer involution

Despite reducing academic burden, the Double-Reduction Policy did not eliminate the competition among students because many of them would secretly study (SM11). Therefore, these students still felt much pressure to study. One interviewee said, 'the Double-Reduction Policy has reduced the amount of homework. However, the policy will make many students do some independent study, which is what we call "involution in education", hence pressuring us to keep up with others' (SF15).

6.3.9 Gender differences

According to traditional theory, men and women have distinct and stable personality qualities that they have acquired due to socialisation based on their gender (Ridgeway & Diekema, 1992). Women are typically willing to negotiate a shared perspective and other favourable social behaviours, such as reducing group conflicts and promoting teamwork. By contrast, men exhibit divergent opinions and task behaviours, such as presenting opposing viewpoints (Aries, 1982).

Perceptions towards the Double-Reduction Policy also showed some gender differences. In the state of learning, girls are not as optimistic as boys about their learning situation because their amount of homework and exams was reduced. As a result, girls are more anxious than boys. In addition, the implementation of the Double-Reduction Policy gave students more time for themselves. Girls were inclined to choose extracurricular activities, such as handicrafts and dancing, whilst boys were inclined to play ball games. The level of interest in playing video games was stronger among boys than girls. With regard to their spirit of exploration, boys were more interested than girls in science experiments, with some even taking the initiative to do physics experiments after class. As for their choices of subjects for after-school tutoring, boys tend to choose English, whilst girls tend to choose math and physics. As the implementation of the policy reduced the amount of time children spend on doing their homework, their parents became worried about their children's learning progress and academic performance, with mothers showing more anxiety than fathers.

6.4. Perceptions of Junior High School Students' Parents Towards the Double-Reduction Policy

6.4.1. Completion of students' homework

After the implementation of the Double-Reduction Policy, most parents felt that their children's homework time was significantly shortened (PF05) because some of their homework can be done at school (PM10). However, they also felt that their children's attitudes towards completing their homework became more positive (PM08) and observed that their children started learning more efficiently (PF07) and reading independently (PF15). One interviewee shared,

> Our children complete their homework better than before. First, there is less homework for all subjects, and second, our children spend less time to complete their homework, giving them more time to read and develop their hobbies. Third, the quality of their homework is also better than before because they have more time to review and consolidate what they have learned. (PM12)

Some parents felt dissatisfied with their children's completion of homework and assumed that they might even be delaying its completion. One interviewee shared, 'he finishes his homework, and the overall situation is okay, but sometimes the time control could be better. He feels rushed to finish it because sometimes he plays a bit, and time passes quickly. Generally speaking, he takes about one to two hours to complete his homework from Monday to Friday' (PF03).

The quality of the children's work needs additional consideration. One interviewee mentioned, 'he finishes his homework daily, but I need clarification on the quality' (PF06).

6.4.2. State of learning

6.4.2.1. Improving

The majority of the parents felt that their children's overall learning had improved as evidenced by the fact that their children were taking less time to complete their homework and that they were working and resting regularly, which was good for their physical and mental health. These children also had more time to do their chores and develop their hobbies, engage in hands-on practical work, develop holistically and achieve core youth literacy. As one interviewee said,

> The reduction in the amount of homework in children's schools and the cancellation of out-of-school trainings will impact their learning. This situation makes parents and children more likely to focus on classroom learning, homework exercises and various experiments set by schoolteachers. When we return to the classroom, after completing the appropriate learning tasks, we will be able to spend our free time doing some chores, doing some moderate physical exercise, reading and developing other hobbies. (PM12)

6.4.2.2. Worries and anxiety

Some parents felt worried and anxious about their children's learning. Firstly, they must understand their children's learning situation and wonder how well they learn (PF09). Secondly, some parents believed that their children have less to learn and cannot digest their learned knowledge, so they want school education to be reinforced. As one interviewee mentioned, 'although there is less training outside school, we hope that students will learn more solidly in school under the hard work of teachers so that they can make up for what they cannot learn outside' (PF08).

These parents also felt that the amount of homework for their children was reduced as a result of the Double-Reduction Policy. However, they were worried that their children do not grasp their learned knowledge firmly enough. They need more homework or exercises to consolidate their knowledge. One interviewee shared, 'as my child is in his third year of school, school classes are about quickly mastering book knowledge. This means that many lessons may be delivered in just one or two class periods, which are not enough for the children to digest such knowledge. So, I think it is important to have a certain amount of homework' (PM03).

Due to the limitations in their knowledge and culture, some parents could not tutor their children, and they do not know who they can ask for help with their children's problems. One interviewee said, 'some problems cannot be paid attention to. After the Double-Reduction Policy, parents were also worried and anxious about whom to ask for help with their children's studies' (PF10).

These parents highlighted the need for both school classes and out-of-school courses. One interviewee shared,

> The amount of homework has been reduced, and the outside tutorial trainings for the cultural curriculum have been cancelled. To prepare for secondary school examinations, schools should give more study tasks, and students should spend more time studying at school. Schools may consider organising an evening class to guide and monitor students in improving their learning efficiency. (PM01)

These parents also observed that their children were given more time for themselves after the Double-Reduction Policy. However, they argued that these children should spend their extra time in practical learning, recreation and relaxation. One interviewee shared, 'the amount of homework has been reduced, and out-of-school trainings have been cancelled. In the short term, students clearly felt that they have much free time, and so, they spend more time playing video games and fiddling with electronics, and their learning somewhat regressed as a result' (PF11).

6.4.3. Learning attitude and interest of students

6.4.3.1. Improving

Most parents felt that their children's attitudes towards learning had become more positive and that their interest in learning had increased. One interviewee mentioned, 'his attitude towards learning is much better. He has increased his interest in learning and often explores learning challenges' (PM04).

Some parents mentioned that their children had more time to plan and manage themselves (PF05) and developed a greater interest and enjoyment in learning (PM07). Their children no longer find learning a painful task and were able to learn happily and efficiently. These parents also reported that their children's learning load was reduced, giving them more time to rest and engage in moderate physical exercise (PF12), thus improving their state of mind and the efficiency and quality of their learning.

6.4.3.2. Mixed feelings: Aimless and poor discipline

Some parents thought that the changes in their children's attitude and interest in learning were not apparent and that they had no sense of purpose in learning compared with their better-performing classmates (PF03). Some of these children also showed minimal interest in learning (PM06), thus negatively affecting their academic performance.

After the implementation of the Double-Reduction Policy, some parents observed that their children lacked a sense of self-discipline in their studies due to their low self-motivation.

These children felt that everything was fine after doing their homework. One interviewee shared, ‘after the Double-Reduction Policy, my child will only do the homework assigned by the school, and after completing his homework, he will be fine. He will not go the extra mile to read or brush up on his own’ (PF09).

6.4.4. Children’s hobbies after school

6.4.4.1. Taking up different kinds of hobbies

After the implementation of the Double-Reduction Policy, most parents believed that their children developed hobbies and interests at home, such as drawing and painting (PF05), playing guitar (PM04), doing crafts and modelling (PF07), playing football (PM1), playing basketball (PM10) and dancing (PF14). One interviewee stated, ‘after the Double-Reduction Policy, our children are able to organise their study time and hobbies at home in a reasonable and planned way’ (PM15).

6.4.4.2. Addiction to electronic devices

Some parents reported that their children spend their extra time on their electronic devices rather than developing their hobbies. They claimed that those children playing with their mobile phones during their free time should be guided appropriately and controlled scientifically. For example, one parent said that her child likes watching short videos after studying (PF02), whilst others mentioned that their children would play with their mobile phones for an extended period during their free time (PM06). One interviewee shared, ‘After the Double-Reduction Policy, children spend more time at home using electronic devices to play games and watch short videos or paranormal TV series. Children have difficulties in consciously controlling the length of time they spend with these electronic devices and should therefore be controlled’ (PF11).

Secondary school students are in their adolescence, and it is not uncommon for their relationship with their parents to deteriorate because of their overuse of electronic devices. Students are addicted to watching short videos, playing video games and reading online

articles, which take up most of their time after school. This addiction affects their physical and mental health. Preventing Internet and gaming addiction is directly related to the effective use of these students' spare time (Zhou & Qi, 2022). This issue is not only educational but also social, which requires schools, families and societies to form a synergy to reduce the harm caused by electronic devices to the bodies and minds of children. These children should learn how to independently resist the temptation of using these devices for functions other than guiding their learning.

6.4.5. Parent–child relationship

6.4.5.1 *Deterioration of parent–child relationship*

Other parents felt that their relationship with their children grew worse after the implementation of the policy. On the one hand, their children would rather spend their time with their electronic devices and show a lack of self-control. These parents would clearly express their dissatisfaction with this practice, thus creating conflicts with their children. For example, one parent expressed dismay with her child because he would rather play with his mobile phone (PM02). On the other hand, some parents were at a total loss as to how to educate their children. One interviewee shared,

> His State sometimes we have because we are more demanding, sometimes higher, will be more than a child's to their own requirements many times will often affect his mood. He listened to more after a little bit, cannot listen to, you speak more, he may also be angry. Sometimes we try to ease our relationship, and sometimes he does not want to continue studying. I try to calm him down a bit. Sometimes he does not hear what I am saying, so I would like to ask the teachers at school to supervise him a bit more. We parents may need help to achieve the same results as the teacher. So, I hope that the teachers will cooperate with us to provide our children with adequate education. (PF03)

6.4.5.2. Improved parent–child relationship

The majority of the parents felt that their relationship with their children was improved after the implementation of the Double-Reduction Policy for several reasons. Firstly, these children started spending more time with their parents. One interviewee shared, 'the relationship should be better. When children spend less time to finish their homework, their quality is improved, thus increasing parents' confidence in their children and giving them more time to spend with and communicate with them. The family relationship becomes more harmonious as a result' (PM12).

Secondly, parents and children start communicating their ideas with each other through parent–child activities. One interviewee shared, 'after the Double-Reduction Policy, children have more time to spend with their parents, nurture their relationship and do some outdoor activities. Through these activities, parents can develop their children's learning interests and let them learn and grow happily' (PF07).

Most parents reported that the quality of their companionship with their children was improved (PM05) and that they could get along with their children harmoniously (PF14).

6.4.6. Supplementary effect on learning

6.4.6.1. Advantages of the Double-Reduction Policy

Some parents believed that the implementation of the Double-Reduction Policy positively affected their children as they have been able to complete their homework in less time, develop a routine and show effectiveness in their studies. One interviewee shared,

> The impact of the Double-Reduction Policy on our children's education is like this. After its implementation, our children can finish their homework more efficiently and have more time to interact with their teachers and classmates. They can also rest earlier at night and then study more efficiently at day. I am very much in favour of this, and I hope that the state will implement the policy more thoroughly. (PM07)

These parents also mentioned that the by prohibiting off-campus classes, the policy reduced their education expenses and alleviated their financial difficulties to an extent. One interviewee shared, ‘with less out-of-school training, our family has less money to spend on our children’s education. The financial pressure on our families has also been reduced’ (PF02).

6.4.6.2 *Disadvantages of the Double-Reduction Policy*

Other parents expressed their concern and anxiety about their children’s learning as a result of the Double-Reduction Policy. Firstly, these parents started receiving less feedback on their children’s learning due to the reduced amount of tests. Specifically, the tests for junior high school students changed from once every fortnight to only twice a semester, and the results of these tests also changed from direct feedback to self-enquiry by parents. The changes in these approaches made many parents feel less aware of their children’s learning situation. These parents want to know about their children’s academic performance promptly. They are worried about their children’s inability to catch up (PF10) and their academic performance (PM14).

Some parents felt that the number of homework and exams should be increased to keep their children’s learning up to date. For example, one interviewee said,

> I think there was less homework after the Double-Reduction Policy, but I did not see my children finish their homework earlier either. So, I do not think the policy has had a good effect. Nevertheless, I do think that there should be more homework. It would be better to have a weekly test so that we, as parents, can better understand how our children are learning, what they have learned and in which areas they are doing better. Now there is only a midterm and a final exam. At the end of the day, it feels too late if we only find out about our children’s problems at the end of the year. Therefore, I think we should take a weekly test so that we can know which areas our children have mastered and in which areas they have performed poorly so that we can give them some guidance. (PF09)

These parents also realised that despite the Double-Reduction Policy, their children continued facing high study pressures mainly because most of these children are forced to study independently, a phenomenon known as ‘involution’. One interviewee mentioned, ‘I often heard him say that he was stressed, and when I asked him why, he said that although the amount of homework was reduced, some of his classmates would study independently’ (PM04).

6.4.6.3. Advantages and disadvantages of the Double-Reduction Policy

Some parents believed that the implementation of the Double-Reduction Policy has both advantages and disadvantages that need to be viewed in a rational manner. Given that each student has a unique academic performance, parents believe that the impact of the policy on these students also varies. For those children who are not sufficiently autonomous in their studies, learning becomes very complex and stressful, thus increasing the anxiety of their parents (PF15). The policy also made some students miss out on their learning (PM11). Therefore, the policy should be reviewed hierarchically and be personalised to students. As one interviewee said,

> There are good and bad sides to the Double-Reduction Policy. In fact, for those students who are more autonomous in their studies and who have a stronger sense of self-esteem, the policy may indeed be a good thing. However, for those in the middle tier, I think that the policy may have further lowered their standards, just like a horse off the bridle, which may negatively affect them. So, I think the amount of study should be increased, and the things that should be done should still be done as long as these students can make more use of their time, that is, schools should give them more tasks to do. (PF03)

6.4.7. More challenges to family education

Some parents thought that the implementation of the Double-Reduction Policy significantly challenged family education. As children are willing to talk to their parents, their parents' words and actions also serve as some form of education for them. Many parents have to work hard to make ends meet, and they are also responsible for taking care of their children's lives, learning and growth. Therefore, parents place stringent requirements and responsibilities for their children. As one interviewee shared,

> Implementing the Double-Reduction Policy has placed higher demands on parents. As parents, we should not only teach our children by example and convey to them the correct outlook on life, values and learning but also create opportunities for them to exercise their abilities, develop their active learning, independent thinking skills and resistance to blows as early as possible, teach them to accept setbacks in moderation so that they can set the right goals and directions, know what kind of person they want to be and be able to communicate and cooperate with others in a usual way. This means that they learn how to behave, which is a high requirement for parents. (PF12)

Therefore, parents should have a scientific concept of family education and time management and should know how to guide, manage, supervise and emphasise communication when educating their children (Zhou & Qi, 2022).

6.5. Involution

In 2020, the word 'involution' started to appear on Chinese social media platforms. This term describes a situation in which an individual puts in extra effort, but such effort does not result in any beneficial outcomes (Wang & Ge, 2020). The emergence of involution and its normalisation is a phenomenon of concern. Huang (2000) described endoscopy as 'growth without development'. However, endoscopy reflects the reality of China's basic education, in which students are subjected to fierce competition under the influence of the concept of 'one exam for life' and the pressure to advance to higher education.

On the one hand, for students, constant self-replication in academics is a source of self-comfort, and they are usually unable to relieve themselves from distress, exhaustion and confusion. One student shared in the interview that he sacrificed much of his leisure time to cope with his fear of falling behind. These phenomena also reflect the fundamental misinterpretation of 'holistic development' and 'quality education' by parents, who allow their children to participate in extracurricular trainings after school to improve their academic performance. In 2017, the participation rate of primary school students in out-of-school academic trainings reached 33.4%, whilst that of junior high school students reached 43.7%, with an average annual training expenditure of RMB 2,000 (Wei, 2019). Obviously, families with a high level of economic income can afford to pay for their children's training.However, families with a low level of household income will have to turn to schoolteachers for help.With such a huge market for out-of-school trainings, capital has been pouring into subject-based trainings, and family spending on out-of-school trainings has also been increasing, fuelled by social capital. Before the Double-Reduction policy was implemented, social capital and family education resources were excessively stacked in compulsory education, leading to over-intensive education resources in test-oriented education, with students becoming increasingly capable of test taking and gradually developing their personalities. Educational involution is an important cause of the anxiety felt by some students and parents.

The intense focus on core competency in recent years has signalled a shift in attention to subjectivity among educational researchers and policymakers from various countries. The emphasis on enhancing competency has also prompted researchers to focus on students' cognitive abilities in learning, extension, integration and construction, their need for critical thinking, their development of higher-order thinking qualities and their call for competition and cooperation. However, the relatively single quantitative evaluation model and performance appraisal system need to be modified in response to the deepening reform of education. Given the significant guiding effect of the educational evaluation and measurement system on teaching practice, one may ask if the 'utilitarian nature of education' is also fuelled by schools and if the rapid development of involution is influenced by the dimensions of educational evaluation.

For the cultivation of talents in the country, the internal depletion brought about by the education involution is not conducive to the 4Cs represented by collaboration, communication, critical thinking and creativity, to the deepening of a new round of curricular reforms, to the cultivation of innovative talents and to the upgrading and transformation of an innovative society. The internalisation of compulsory education has led parents and schools to spend more energy on the refinement of competition whilst ignoring the need to reform and innovate a new type of education that is truly valuable, thus hindering the all-around development of children. The internalisation of compulsory education is resistant to education reform. When involution cannot be effectively changed, education reform will always be resisted by the inertia of internalisation, and the inner development and substantive innovation of education cannot be achieved.

7. Discussion

This study mainly investigates the perceptions and experiences of secondary school students in Shenzhen and their parents after the implementation of the Double-Reduction Policy. According to Liu (2021), the implementation of this policy can effectively reduce students' academic pressure and enhance their development. According to the cultural reproduction hypothesis, children from middle- and upper-class families tend to inherit different types of cultural capital from their parents. Valued by the educational system, this type of capital may help children reach high levels of academic success (Bourdieu, 1973). Superior families, which are most often headed by parents with high literacy levels, have many educational resources, thus increasing the chances for their children to enter a good high school. The implementation of the Double-Reduction Policy aims to alleviate the parents' anxieties regarding the imbalanced distribution of educational resources. Specifically, this policy completely prohibits the enrolment of students in out-of-school trainings. Shenzhen has adopted inter-school alliances, school district groupings, high-quality school clusters, innovative school operation models and inter-school exchange and cooperation platforms to promote equality in the use of high-quality educational resources, provide mutual assistance in education and teaching, pool the curriculum resources of schools within a district and mitigate the effects of cultural reproduction to a certain extent, thus addressing the sharp class differentiation.

7.1. Summary of Research Findings

Most of the participating students believed that the Double-Reduction Policy reduced their academic pressure mainly by reducing the number of their homework and exams. As a result of this policy, some of them developed positive attitudes towards learning, showed an increased interest in learning and improved their practical skills. These students also became highly flexible and thoughtful. They felt that their spirit of exploration was enhanced to the point that they started performing small scientific experiments to explore their knowledge of physics. They also willingly interacted and communicated with their teachers. These students

felt some improvements in their independent learning ability due to having more free time after class. Some students believed that their ability to live a healthy life had increased after their sleeping habits and mental state were improved by the policy. They also acknowledged the positive role of the policy in reducing their academic load.

However, some students became lazy in their studies because of the reduced homework and were unwilling to do other exercises. Others felt that the policy actually increased their academic pressure and their anxiety about their examinations, peer competition and parents' demands. Whilst the reduced academic burden resulting from the policy increased the learning motivation of these students, the lack of practice sessions and out-of-school trainings reduced their confidence and optimism about learning. Some even developed negative attitudes towards learning as reflected in their relaxed state and lack of autonomy. The lack of practice sessions also diminished the problem-solving skills of some students. In general, these students held different views towards the extent of the academic burden reduction brought about by the policy. Some students are demanding out-of-school trainings because their home environments do not provide them opportunities to learn.

Meanwhile, some parents believed that the policy would improve the learning efficiency of their children but reduce the quality of their homework. Whilst the policy gave their children more time to develop their hobbies and interests, which can contribute to their overall development, these parents were worried that these changes would affect the quality and solidity of their children's learning. Some parents had limited educational attainment and were therefore unable to tutor their children. The attitudes of parents and students towards learning showed some similarities. For instance, they feared that an increased interest in learning may be accompanied by a reduced learning initiative. Although children engage in various hobbies at home, some of them developed addiction to electronic devices and lost all interest in learning. Some parents shared that they started spending more time with their children after the implementation of the policy, thus improving their parent–child relationship. However, some parents also felt that their children spent more time playing with their mobile phones because they were busy with work and needed more energy to manage their children's studies, thus debilitating their parent–child relationship. Other parents felt that due to the prohibition of out-of-school trainings, they saved some money on their children's education.

However, they highlighted the importance of making them aware of their children's studies because they do not know their children's test results and have to dissuade them from playing games. These results introduce uncertainties and difficulties for family education. These parents also asked for additional feedback from their children's schools. In sum, the Double-Reduction Policy has its benefits and drawbacks.

7.2. How the Conceptual Framework Guides This Research

The proposed framework aims to understand the effects of the Double-Reduction Policy on students and parents and to explore the perceptions of students and parents towards academic burden. A questionnaire survey was designed to answer several questions, including 'Is there any reduction in academic pressure', 'Are there any changes in interest in learning', 'Are there any changes in the length of out-of-school trainings' and 'Are there any hobbies and interests?'

To further understand students' perception of academic burden, in-depth interviews were conducted with 15 students and their parents. These interviews revolved around the questions 'how much homework do you do', 'how good or bad is your learning status' and 'what are the changes in your hobbies and abilities?' Some students had complex feelings about their academic burden stemming from the pressure of their exams, peer competition and their parents' expectations.

The interviewed parents were asked, 'What do you think about the abolition of extracurricular trainings?' Some of these parents mentioned that due to their limited education, they were unable to help their children deal with their learning problems. As a result, they needed help from professional institutions.

Whilst many previous studies have already explored the reasons behind reducing academic burden, the innovation of this research lies in its attempt to connect academic burden reduction to enhancing students' core competency. Accordingly, questions related to the development of students' core competency after the implementation of the Double-Reduction Policy were asked during the interviews, and an obvious connection between the two was observed. Specifically, with a reduced academic burden, students were

given the time and energy to develop their hobbies, discover their strengths and improve their abilities in certain areas, such as thinking, practical and social skills. By improving and accumulating these abilities, these students gradually developed their core competency. In the questionnaire survey, 32.24% of the students claimed that they have enough time to develop their hobbies, 37.5% thought that their independent thinking ability was enhanced, 42.43% shared that their sense of responsibility and courage were improvedand 45.39% improved their relationships with their parents.

Given that the Double-Reduction Policy prohibits the organisation of out-of-school trainings for primary and secondary school students (MOE, 2021) and the advanced teaching of textbook content or knowledge, students developed their interest in other areas, such as art, language and thinking. In other words, this ban provided a conducive environment for students to develop their interests and literacy. These students were given the time to engage in extracurricular activities after school or attend interest classes during weekends and holidays without the pressure of exams. The interviewed parents stated that their children started playing ball games, dancing and doing crafts. Although subject-based training is still present in the form of various hidden exams, the number of students attending subject-based trainings remains low as shown in the questionnaire survey results.

7.3. Double Reduction and Basic Education System

The purpose of implementing the Double-Reduction Policy aligns with multiple intelligences theory. Specifically, this policy aims to help cultivate students' independent thinking habits and enhance their ability to explore and innovate by reducing their mechanical and repetitive academic burdens so as to achieve overall human development. However, given its excessive focus on exam-oriented education, China's education system and social culture face several challenges from the implementation of the policy. The Double-Reduction Policy is also consistent with student-centered theory, which treats the student as the main body and his/her development as the priority. However, the development of the student requires a suitable and healthy environment, and education plays an important role in the process of his/her physical and mental development. In sum, student-centred

theory can only be applied to learning activities and ultimately achieves the purpose of human development when a matching educational model is present.

The Interviews also underscored the feelings of confusion amongst students and parents after the implementation of the Double-Reduction Policy. Each student and parent held different views towards the policy and expressed complicated feelings with regard to the ban on extracurricular tutoring. The interview data reveal that students' development is not only influenced by economic, social and cultural factors but also by the educational system (especially the evaluation system), parental expectations and peer pressure. These results contribute to the present understanding of the challenges faced by students and their parents after the implementation of the Double-Reduction Policy and can even help policymakers refine and improve such policy to meet its intended goal.

7.4. Transformation of the Education Model in China

In 1993, the *Outline of China's Education Reform and Development* proposed that primary and secondary schools should shift from 'exam-oriented education' to improve the nation's quality (MOE, 1993). However, many schools across regions continue to arbitrarily shorten their class times to give way for music, art and physical education, extend their class times for language, mathematics and foreign subjects, hold makeup classes on weekends or during summer and winter vacations and teach new lessons in advance. In 1994, the *Opinions on Comprehensively Implementing the Education Policy and Reducing the Excessive Burden of Schoolwork in Primary and Secondary Schools* proposed that the keys to reducing the excessive academic burden of primary and secondary school students are to change the present educational thinking, to abandon the long-established 'exam-oriented education' model, to address the schools' tendency of pursuing one-sided promotion rates, to comprehensively implement the education policy, to comprehensively improve students' ideological, moral, cultural, scientific, physical and mental qualities and their labour quality and to promote the healthy growth of children and adolescents (MOE, 1994).

The *Urgent Notice on Reducing the Excessive Burden of Students in Primary Schools* suggests that schools should strictly follow the prescribed curriculum plan, arrange the

curriculum and rest time in a balanced manner according to the learning and living rules of children, focus on activities and homework in the afternoons and advocate the assignment of active and practical homework (MOE, 2000). Meanwhile, the *Decision on the Reform and Development of Basic Education* proposed expediting the development of a new basic curriculum system that complies with the standards of quality education, reducing the excessive academic load faced by primary and secondary school students, respecting the unique personalities of each student, adhering to the laws governing these students' physical and mental development and ensuring that these students are growing physically and mentally in a healthy manner (MOE, 2001). The Program for the Prevention and Control of Nearsightedness in Primary and Secondary Schools also proposed a series of measures to effectively reduce the academic burden of students, such as improving teaching methods, enhancing the quality and efficiency of classroom teaching, ensuring that classes are not delayed, limiting the number of exams and the subjects they cover, keeping extracurricular assignments to a minimum, maintaining the number of hours for teaching a particular subject and not scheduling lessons around holidays and vacations (MOE, 2008).

The state takes academic burden reduction as an important measure to promote quality education. New situations of academic burden, such as reducing burden among students but increasing burden among parents, are not conducive to the implementation of a national strategy to promote quality education. Therefore, the national policy of reducing academic burden not only addresses the problem from the internal perspective of schools (e.g. by improving the quality of teaching and learning, prohibiting schools from extending or shortening class hours, organising extra classes during holidays and weekends, promoting teachers to optimise their teaching methods and cultivating students' scientific learning methods) but also puts forward norms and suggestions from the perspective of societies and parents, thus guiding these parents in cooperating and supervising the learning of their children without imposing additional burden.

Whilst China's education policy has focused on reducing students' objective academic burden over the past 70 years since its implementation, the subjective feelings of these students have been ignored. The *2010 National Medium- and Long-Term Education Reform and Development Plan*, which defines academic burden as 'the burden of learning that

students have to bear', marks the time that the state started paying attention to students' subjective feelings. However, the recent policies on reducing academic burden have yet to take these feelings into consideration. Therefore, the formulation of scientific policies on reducing academic burden should start from a comprehensive understanding of the nature of academic burden and pay attention to the objective appearance of such burden and the students' internal subjective feelings.

7.5. How Do Insiders Impact the Research Process?

The research question was answered from different perspectives. The importance of reflexivity has been increasingly acknowledged in qualitative research due to the complexity of the researcher's position (Naples & Sachs, 2000). In order to 'maintain the balance between the personal and the universal' (Berger, 2015, p. 220), researchers are specifically urged to acknowledge their presence, characterise their role in the formation of knowledge and self-monitor the impact of their biases, beliefs and experiences on their research. In other words, reflexivity, a term used synonymously with reflectivity and critical reflection (D'Cruz et al., 2007), is typically understood as an ongoing internal dialogue and critical self-evaluation of the researcher's positionality (Pillow, 2003). Exploring the same question from different perspectives is a common research practice. In reflexivity processes, a psychological reflexive mechanism seeks to consider the perspectives of other people within the examined setting. Acquiring a deeper study image may help improve one's understanding of the research procedures and generate highly harmonic views (Galinsky & Moskowitz, 2000). The quality and understanding of upcoming insider research and other research projects can be improved with the aid of such reflective techniques.

The position of the researcher as the teacher of the interviewed students in this study may influence the results of the questionnaire survey and in-depth interviews. Specifically, these students may have some reservations in answering the questions. To avoid these misgivings, they were assured from the very beginning that this study is being conducted purely for academic purposes. For example, the questionnaire preface informed the students that the collected data would not be divulged, that the researcher would respect their privacy and that

their responses had nothing to do with their grades and evaluations. With these assurances, the students expressed their true feelings during the in-depth interviews in a relaxed and pleasant atmosphere.

7.6. Quality-Oriented Education Development in the Context of the Double-Reduction Policy

7.6.1. Optimisation and upgrading of the school quality education model

By concentrating on reducing the amount of homework assigned to students, the Double-Reduction Policy has enhanced the instructional approach of schools. By saving time and providing an environment that nurtures students' moral, intellectual, physical and aesthetic growth, this policy relieves the unnecessary pressure that students face due to the substantial amounts of out-of-syllabus course content. Fu (2022) discussed how this policy reduces the amount of coursework to give students ample time to rest and develop. She pointed out that during the knowledge education stage, those students who have fully developed their moral, intellectual, physical, creative and industrious spirits are typically more suited to professional settings than those students with outstanding grades alone. This finding is consistent with multiple intelligence theory (Gardner, 1983). The school serves as a vital setting for children to learn and achieve personal development. Their learning environment influences their ability to develop healthy personalities and appropriate life philosophies, ethical ideals and worldviews. The Double-Reduction Policy has allowed schools to devote more time to providing students with high-quality education.

7.6.2. Quality and effectiveness of school education in China

The Double-Reduction Policy not only urges schools to cut back on homework but also highlights the importance of good homework. Writing down new words 10 times for mechanical repetition is absurd. Teachers should offer considerable amounts of homework and properly arrange their lesson plans.

As revealed in the survey, the students were worried that reducing their homework too much would weaken their learning ability. In the late 1970s, to reverse the traditional tendency of ‘spoon feeding education’, Japan proposed the ‘lenient education’ reform, which aimed to lighten the academic burden of students by reducing the difficulty of their schoolwork, reducing their study content by 30% and shortening the duration of their classes by 10%. In May 2016, Japan enacted the ‘de-concentration of education’, which signified the failure and end of the lenient education reform. According to Shuyuki Hirota, the president of the Japan Education Association, ‘Lax education eagerly pursues the cultivation of students’ creativity but ignores that the accumulation and consolidation of basic knowledge is a prerequisite for creativity. Reducing students’ academic burden does not imply eliminating burden, and reducing students’ homework burden does not imply eliminating homework either’ (Hirota, 2016). Exercises performed after school, such as practice drills and practical applications, are crucial for evaluating students’ grasp of and ability to apply their acquired knowledge (Gu & Zhong, 2021).

A significant challenge for schools is how to properly reduce their students’ intellectual load within an appropriate level. School education must address the two issues of enhancing quality and boosting effectiveness in order to appropriately minimise their students’ academic responsibilities. An educational programme should not rely on a technique of instruction that spoon feeds information and emphasises exercises; rather, this programme should be based on improving the efficiency of education. This proposal is consistent with student-centred development theory, which states that everything is for the development of the student (Dewey, 2001). Improving quality without the aim of increasing efficiency comes at the expense of teachers’ creativity and the potential development of students. To improve the quality and efficiency of school education, schools should make great efforts to deepen the reform of education and teaching, optimise their teaching and learning processes and improve their homework design and homework correction and after-school services. Schools serve as areas where students can learn enough and well. Therefore, the Double-Reduction Policy should be implemented to optimise education and teaching links and improve the quality of school education. The key is to take classroom teaching as the primary strategy to change

how students learn, achieve an in-depth and sustained optimisation of classroom teaching activities and ensure classroom teaching quality (Zhou & Qi, 2022).

7.6.3. Optimising extracurricular services

The participating students claimed that they need professional extracurricular tutoring to solve their learning problems. Whilst their children gained more time after school due to the implementation of the policy, the parents were concerned that their children were spending such time on their electronic devices. Therefore, extracurricular tutoring at school is crucial.

Unlike classroom teaching, extracurricular tutoring is an educational service provided by various sectors, including schools, families and communities, at the end of the school curriculum to promote children's development. Extracurricular tutoring usually comes with other services that help parents in taking care of their children. Interest group activities, club activities, comprehensive practical activities and social practice activities reduce students' academic burden, meet their diversified learning needs, help them cope with their academic difficulties and guide them towards academic excellence (Li, 2020). After the implementation of the Double-Reduction Policy, students were given extra one to two after-class hours. Schools must extend after-school service channels whilst enhancing their after-school programmes' quality. They must fully utilise the social resources that are at their disposal and implement high-quality educational initiatives that are appropriate for students, such as reading, writing, physical education, popular science and interest groups.

After-school instruction is a valuable addition to in-class instruction that offers significant pertinence and autonomy, which may significantly enhance students' personalities and impact their academic careers and personal lives (Cai, 2021). Teachers use their students' after-school learning opportunities to effectively guide their learning and to maximise their post-class services. All of these services benefit the students' capacity to learn independently (Yang & Dong. 2012). After classes, teachers would monitor the learning performance of their students, guide them in understanding their class contents, encourage their good study habits and build a strong foundation of knowledge (Cai, 2021).

Teachers may also encourage students to preview new information, which may improve

their independent learning ability. Some experts believe that teaching children how to learn is more important than continuously indoctrinating them with knowledge. Therefore, teachers should discipline their students to develop their learning strategies and improve their critical thinking capacity.

7.6.4. Fostering students' core competency

The implementation of the Double-Reduction Policy also improved the students' core competency skills, including their learning attitudes, problem-solving ability, spirit of exploration, independent learning ability and ability to live a healthy lifestyle. In a way, reducing the academic burden of students also helped them develop their core literacy skills. Reducing the amount of homework gave these students additional time to spend on after-class services, which benefit their overall growth (Guo, 2022). For example, the Hongshan Middle School in Shanxi Province prioritises the critical thinking of students. This school actively encourages its students to participate in regional and local science and technology innovation contests and other events. As a result, the school has amassed 112 national utility model patents. In order to pique students' interest in science, the Hongshan Middle School renovated and expanded its science and technology area in 2021 and introduced 20 new teaching tools that can illustrate various scientific ideas (Wang, 2021). The Chinese government uses the Double-Reduction Policy to allow primary and secondary students to resume their regular schooling. Education in schools is methodical and stresses not only the students' acquisition of knowledge but also the conversation and interaction between teachers and students and the knowledge sharing and communication among classmates, all of which can enhance students' all-around literacy and talents (Zhang & Yang, 2021).

7.7. Challenges to Quality-Oriented Education Under the Double-Reduction Policy

7.7.1. Current evaluation system

The curriculum and instructional style in primary schools have always been impacted by the educational assessment system. The college entrance test, which is a crucial component of the educational system, has a significant direct influence on primary school education (Huang, 2005). Exams have long been a crucial component of education evaluation in the classroom because they provide a direct and reliable means to gauge how well students are learning. High test scores have become the primary goal of teaching and learning in schools, and instruction has turned into a testing instrument (Ran, 2010). Competition amongst schools for high scores has intensified, and burden reduction in schools has often been reduced in one form and added in another. Schools' emphasis on test scores has triggered a competition amongst students that seriously affects the standard educational order in each district (Dong & Song, 2021), thereby introducing pressures for higher education and school choice. Therefore, schools should optimise their school environment and regulate enrolment.

With the era of the secondary school entrance examination as the 'baton', exams and evaluation are still the primary ways of selecting talents in China. The Double-Reduction Policy provides a significant opportunity to deepen the education evaluation reform. However, completely reversing the traditional evaluation orientation presents a challenge. The policy encourages an active reformation of the evaluation mechanism through innovative evaluation means, such as using portfolio evaluation and forming a diversified evaluation system. The school quality evaluation system should start shifting away from scores and focus on character development level, academic level, interests and specialties as new evaluation elements. In the exam and evaluation processes, the curricular criteria should be strictly followed in the development of questions, and the amount and level of difficulty should be determined scientifically. To improve student performance, the number of questions that demand rote memorisation and extensive training should be reduced, whilst the number of questions that assess students' learning capacity should be increased. The learning of students should be tested through various channels and methods, and the weight of paper-and-pencil exams and exercises should be reduced. Test scores should also not be ranked or publicly announced (Gu & Zhang, 2010).

7.7.2. Education involution, off-campus training and education equality

Over the past decade, the capitalisation and utilitarian competition in the off-campus training market have destroyed the basic education ecology through the involvement of many families in involutional competition. For example, when some students gain an advantage over others in terms of test scores through off-campus training or private tutoring, other students will be motivated to engage in involution. Those families with excellent financial conditions tend to enrol their children in multiple off-campus tutoring services to build their advantage in academic competitions.

The Double-Reduction Policy further enhances the role of after-school programs in reducing academic load by requiring knowledge content to be delivered at a specific time. After-school programmes were also required to be of high quality, to be offered in more places and to be strengthened through free online learning. After-school services should meet students' personalised, differentiated and practical learning needs and offer support for those with unique talents (Zhang, 2021). An interactive study of the Double-Reduction Policy reveals that its main goals are to address key issues pertaining to people's quality of life in the area of education and to give everyone access to high-quality and universal education resources (Xue & Li, 2022). The effective implementation of after-school programmes can safeguard the right of children from low-income families to education, make up for the widening educational inequality caused by out-of-school costs and close the educational gaps between the wealthy and poor families due to income inequality (Fang & Huang, 2020).In 2021, Xuepeng Jin argued that as long as the Chinese educational system places a strong focus on exams, parental concern will not abate (Jin & Sun, 2021). According to Xue (2021), some wealthy parents continue paying high-priced tutors to work with their kids at home. However, parents from other economic strata perceived such practice as unfair. These parents were being pressured to invest more in their children's education given that passing high-stakes exams equates to success in life. However, the ban on cram schools as a result of the policy prevented low-income parents from availing after-school education services for their children, whilst wealthy parents continue paying private tutors to teach their children. As a result, societal injustice is likely to increase in both the short and long term.

Along with measuring income, parents' educational backgrounds also have a direct impact on their children's schooling. Liu (2017) encouraged parental involvement in the educational process. Without cram schools, parents with high education attainment will have an edge in developing their children's education. Meanwhile, parents with low education attainment will have less knowledge on how to support their children in school.

Therefore, those parents with high education attainment (at least a bachelor's degree) are inclined to send their kids to college. Many of these students will continue their parents' good status in the future and become elites and leaders in all walks of life. However, this practice also exacerbates class and cultural reproduction. The results of this study supports these arguments to some extent and are in line with the proposals of human capital theory (Burton & Spender, 2011).

Those parents with limited education cannot guide their children in their learning. Most of these parents are busy with their careers to support their family, thus reducing their time for their children. Therefore, these parents greatly rely on training institutions to support their children's learning. With the closure of these institutions as a result of the Double-Reduction Policy, these parents have no idea how to help their children with their homework. They can only rely on friends to recommend private workshops to solve their children's learning problems and relieve their anxiety.

8. Policy Recommendations

8.1.Introduction

Based on the perceptions reflections from students and parents, this chapter puts forward optimizing the student evaluation system, such as growth record files and diversified evaluation methods. Policy suggestions and practices include balancing educational resources between regions, such as realizing the sharing of high-quality resources and forming a joint school-family-society nurturing of children.

8.2. Optimisation of the Evaluation System

Released in 2020 by the State Council and the Central Committee of the Communist Party of China, the *General Plan for Deepening Education Assessment Reform in the New Era* outlines the goals and strategies for education assessment reform in China (MOE, 2020). To alleviate educational anxiety and academic pressures, examination and enrolment systems should be improved. Firstly, compulsory education should adhere to test-free admissions and improve enrolment to ensure that high-quality junior high schools in the area participate in computer-assigned. In order to lessen the pressure on secondary school students in seeking further education, the proportion of high-quality, high school enrolment targets should be increased as necessary. Increase the weight of the high school academic level test and the thorough high school quality review on the basis of the unified college entrance examination, and choose talent via numerous evaluations. For instance, the degree of creativity and problem-solving abilities among students, etc.

Secondly, we should actively explore and practice reforming the evaluation mechanism through innovative, comprehensive quality evaluation using the file bag and form a diversified evaluation system. Making full use of new technologies, such as artificial intelligence and big data, and focusing on process evaluation present suitable alternatives. Through a value-added evaluation of students, parents, teachers and schools are guided to shift from focusing on students' academic performance to focusing on students' development. Thirdly, colleges and universities are given greater autonomy in choosing students based on their conditions and traits and can decide on their own enrolment procedures. Fourthly, looking at how the high school entrance test and the college entrance exam are being changed generally, we should gradually form the classified examination, comprehensive evaluation, and multiple records take the examination and enrollment system (Wang, 2013)

8.3. Balanced Distribution of Quality Educational Resources

Firstly, the majority of the families' fundamental educational requirements may be satisfied in schools because they serve as the primary providers of high-quality education. School education, as the main channel for providing quality education, satisfies the basic

educational needs of most families, safeguards the bottom-line equity of the basic education public service system, and breaks the deep-seated motives for the disorderly development of extracurricular activities and private tutoring. The quality and balanced development of compulsory education can be further promoted through the system design of group schooling, school district governance, urban–rural school community construction and teacher exchange and rotation. Secondly, the education department should coordinate the rollout of Internet services and other technical tools to enhance and improve free online learning services and offer free educational materials to families with limited financial resources. Establishing an online teaching resource platform for all students and organising online interactive exchanges among teachers of different subjects to answer questions effectively are key to the success of this initiative and will maximise the coverage of top-notch free educational resources. The education department needs to advise schools on how to enhance their teaching management practices, instructional strategies, teaching management and effectiveness of student learning in the classroom. Schools should launch a full national curriculum, actively support the scientific connection between early childhood and primary education, assist students in getting ready for school, strictly adhere to the curriculum standard of zero starts, teach as much as they should and make sure that students meet the national academic quality standards. They should resist the temptation to focus on test scores and other behaviours.

Curriculum reform encourages the establishment of a good, well-rounded obligatory education. Everyone should work together to strengthen the direct and balanced effects of compulsory education, aggressively develop a high-quality, balanced compulsory education, encourage the development of new high-quality schools and increase the availability of high-quality educational resources. They should promote group learning, school district management and the development of urban and rural school communities. They need to fully energise school operations, improve school operations generally and hasten the closing of the achievement gap between urban and rural areas and across regions and schools.

All locations should actively work to enhance the high school admissions model based on the outcomes of junior high school academic level tests and conduct a thorough quality review based on the peculiarities of different topics to improve how the exams and results are presented. The curriculum requirements for complex issues should be met to connect with

students' real-world experiences, to improve their problem-solving ability and to further enhance the quality of Chinese examination questions. The allocation of high-quality general high school enrolment indicators to each regional middle school will be gradually increased. The general high school enrolment order will also be standardised, and irregular enrolment and ruthless competition will be eliminated.

8.4. Collaborative Education Among Schools, Parents and Societies

Firstly, parents should be guided to develop a holistic view of their children's development. Short-term grades do not accurately reflect a child's current developmental stage or potential development because growth and development in children do not occur overnight. Along with their health condition, the growth of children's capacity to think independently, explore and discover, ask challenging questions and solve issues should be considered by parents in addition to their academic performance. Secondly, parents require guidance in setting sensible parenting objectives. The growth of a child can be affected by a variety of factors, such as his/her IQ, his/her parents' education and social capital. Excessive expectations not only prevent children from growing up healthily but also introduce additional pressure and stunt their development. Parents should not impose their own unfulfilled goals and aspirations on their children and should not treat them as personal belongings.In order to engage in after-school programmes, social and parental resources are also introduced. After-school programmes may include social practice activities and knowledge and literacy development classes. They may invite representatives from pertinent social organisations, such volunteer groups and museum curators, to the campus to spread scientific literacy. Parents from other professions may also be invited to school to discuss their professional backgrounds. Parents with specific cultural knowledge can also form parent helper groups and use their free time to participate in after-school homework tutoring on campus.

In order to support young people's growth and development, specialists in many topics, including those related to schools, families and societies, must collaborate in the development of education. Recent years have brought stress and pressure to children, parents, schools and societies as a whole due to the absence of scientific evaluation systems and other factors. The

education and training sector has seen an influx of capital, a proliferation of for-profit educational and training institutions and a progressive loss of the synergy amongst society, families and schools. To change this situation, the relationship amongst schools, parents and society should be restored. In the process of educational development, it is important to face up to the status and responsibilities of family and social education, especially the role of family ethics and tutoring, with the goal of improving student's overall abilities and creating an environment suitable for students' overall development.

9. Limitations and Future Research Agenda

This study examines how parents and students perceive and react to the Double-Reduction Policy. In middle schools, teachers and administrators are prominent individuals who affect how the policy is perceived. As a result of the policy's adoption, both teachers and administrators may experience some cognitive shifts in their daily activities. The implementation of this policy has affected teachers' working lives in a broad, direct and noticeable manner. Teachers have new subjective experiences and behavioural performance in developing their teaching plans, improving their teaching quality and providing after-school services. Their internal emotions and external behaviours can have a profound impact on the policy's continuous implementation and improvement (Luo & Hou, 2022). Due to the limitations of qualitative research, especially in terms of sample size, this study further adopts a quantitative approach to further distinguish the academic performance of students based on the types of work of their parents or their family income, hence offering a thorough understanding of the relationship between these factors and cognitive behaviour after the implementation of the Double-Reduction Policy.

10. Conclusion

This study aims to explore the perceptions and attitudes of Shenzhen secondary school students and parents towards the Double-Reduction Policy. The research subjects, comprising 15 students and their parents, were investigated using a mixed methods approach. The data were analysed using NVivo.

Results show that the implementation of the Double-Reduction Policy brought many benefits to the students. Some of these students thought that the policy reduced their academic burden, improved their learning status, increased their learning interest and enhanced their ability to analyse problems and learn independently, their spirit of exploration and their healthy lifestyle. However, some students thought that the policy increased their academic pressures, reduced their learning status, limited their problem-solving ability and intensified the competition in schools, thus increasing their anxieties. Accordingly, some parents became less aware of their children's learning and received less feedback from schools regarding their children's learning, thus also contributing to their anxiety. The parents held different levels of confidence in the effectiveness of the policy, with some parents feeling uneasy about how their children will cope with the future educational competition when their academic burden has been reduced. Some parents continue to experience educational anxiety after the implementation of the policy (Luo & Liu, 2022). They expect schools to provide their children with practical education, thus creating new requirements and challenges for these schools' extended services.

In sum, the Double-Reduction Policy has placed more demands on schools, families and societies. The quantitative and qualitative research methods have produced consistent results, that is, the Double-Reduction Policy introduced benefits in the form of reduced academic stress and improved student literacy development. By exploring the thoughts and experiences of students and parents with the implementation of the Double-Reduction Policy, this study clarifies the needs of these groups during the process of educational transformation and proposes an optimisation path for the policy. In an effort to overcome regulations, promote dialogue and foster shared governance, the ecology of compulsory education is now being rebuilt. This process involves seeking an appropriate balance among different educational

interests and stimulating their vitality, and its ultimate objective is to achieve the transformation of China's education system.

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Appendix

Appendix A: Survey Questions on Students' Experiences After the Implementation of the Double-Reduction Policy

问卷调查

Questionnaire

为全面了解深圳初中生对双减政策的态度和学习体验，以及基础教育从学业减负到素质教育实现过程的影响因素，现诚挚地邀请您参与完成本次调查问卷，本次问卷调查采取不记名的方式进行，一共 12 道题目，大概需要占用您 8-10 分钟的时间。希望您能根据自己的实际情况真实作答。非常感谢您的真诚合作，我们感到无比荣幸！

In order to gain a comprehensive understanding of the attitudes and learning experiences of Shenzhen junior high school students after the implementation of the Double-Reduction Policy and to identify those factors that influence the process of achieving quality education, you are cordially invited to complete this 10-item questionnaire. Your responses will remain anonymous. Completing the whole questionnaire will take about 8–10 minutes. We hope you will answer the questionnaire according to your actual situation. Thank you very much for your sincere cooperation!

核心素养的涵义说明

核心素养是学生在接受相应学段教育过程中，逐步形成的适应个人终身发展和社会发展需要的必备品格与关键能力。它是关于学生知识、技能、情感、态度、价值观等多方面要求的结合体。综合国际经验以及我国国情和教育实践，构建我国学生发展核心素养，目标需要指向全面发展的人。基于“全面发展的人”的内涵与本质，为了落实党和国家的教育目标，学生发展核心素养的理论结构必然包含着主体性、社会性文化性这三个方面。“主体性”主要涉及自我发展方面的素养，主要包含身体(生理)、精神(心理)、智能、个性品质等多方面的素养。“社会性”主要涉及社会交往方面的素养，需要发展能处理好个体与他人、家庭、社会、国家乃至国际等多种社会关系的素养。“文化性”主要涉及文化学习方面的素养，强调发展能学习与传承内含“人类智慧成果”的优秀文化的相关素养。

Concept of Core Competency

Core competency is a necessary character and key competency that students gradually form in their process of receiving the corresponding school level education to adapt to the needs of lifelong personal development and social development. This concept is a combination of various requirements related to students' knowledge, skills, emotions, attitudes, and values. By integrating international experience and China's national condition and educational practices, the construction of core competency for student development in China needs to target a fully developed human being. Based on the connotation and

essence of a “whole person,” in order to implement the educational goals of the Party and the country, the theoretical structure of the core competency of student development must include three aspects, namely, subjectivity, sociality, and culture. “Subjectivity” mainly concerns self-development, which includes physical (physiological), spiritual (psychological), intellectual, and personality qualities. “Sociality” mainly concerns social interactions and requires the development of one’s ability to manage social relationships with others, his/her family, society, the state, and the world. “Culture” mainly concerns cultural learning literacy and emphasizes the development of literacy related to the ability to learn and transmit excellent culture that contains the “fruits of human wisdom.”

请先完成你的基本信息：

你的性别	A.男	B.女	
你的年龄	A.13-14	B.14-15	C.15-16.
你的年级：	A. 7	B.8	C.9

1. 你了解双减政策的内容吗？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Are you familiar with the contents of the Double-Reduction Policy?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

2. 你觉得双减之后学习压力减轻了吗？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Do you feel that your study pressure was reduced after the implementation of the Double-Reduction Policy?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

3.你具有积极的学习态度和浓厚的学习兴趣吗？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Do you have a positive attitude and a keen interest in learning?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

4.你校外辅导时间变少了吗？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Did you have less time for off-campus tutoring after the implementation of the Double-Reduction Policy?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

5.你觉得双减之后有充足时间来发展自己的兴趣爱好？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Did you have sufficient time to develop your hobbies after the implementation of the Double-Reduction Policy?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

6.你在问题解决方面更善于发现和提出问题，并且解决问题的兴趣和热情增强？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Did the implementation of the Double-Reduction Policy improve your abilities in identifying and asking questions and your interest and enthusiasm in problem solving?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

7.你认为你是否学会学习，独立思考问题？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Do you think that you can learn how to learn and think independently?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

8.你重视掌握自身的运动方法和技能，养成健康文明的健康习惯和生活方式吗？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Do you value mastering your own study methods and skills and developing healthy and civilized habits and lifestyles?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

9.你觉得双减之后与父母的关系更加融洽？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Do you think that your relationship with your parents improved after the implementation of the Double-Reduction Policy?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

10.你有责任心，勇于担当，对自我和他人负责？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Are you responsible, courageous, and accountable to yourself and others?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

11.你能热爱并尊重自然，具有绿色生活方式和保护环境意识？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Do you have a love and respect for nature, a green lifestyle, and an awareness of environmental protection?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

12.您认为“双减”政策总体上改善你的学习状况吗？（A.非常不同意 B.不同意 C.中立 D.同意 E.非常同意）
Did the Double-Reduction Policy meet your expectations for improving your education?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

问卷结束。感谢你的参与！如果您对双减政策的认知与体验话题感兴趣，我会在合适时间邀请您做进一步的访谈，请您联系我，我的微信号：tracy715823 谢谢你！

Appendix B: Interview Questions on Students' Experiences After the Implementation of the Double-Reduction Policy

1. 你了解双减政策的内容吗？（非常不同意 不同意 非常同意 同意 中立）
Are you familiar with the content of the Double-Reduction Policy?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

2. 你觉得双减之后学习压力减轻了吗？（非常不同意 不同意 非常同意 同意 中立）
Do you feel that your study pressure was reduced after the implementation of the Double-Reduction Policy？
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

3.你具有积极的学习态度和浓厚的学习兴趣吗？（非常不同意 不同意 非常同意 同意 中立）
Do you have a positive attitude and a keen interest in learning?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

4.你校外辅导时间变少了吗？（非常不同意 不同意 非常同意 同意 中立）
Did you have less time for off-campus tutoring after the implementation of the Double-Reduction Policy?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

5.你觉得双减之后有充足时间来发展自己的兴趣爱好？（非常不同意 不同意 非常同意 同意 中立）
Did you have sufficient time to develop your hobbies after the implementation of the Double-Reduction Policy?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

6.你在问题解决方面更善于发现和提出问题，并且解决问题的兴趣和热情增强？（非常不同意 不同意 非常同意 同意 中立）
Did the implementation of the Double-Reduction Policy improve your ability to identify and ask questions and your interest and enthusiasm in problem solving?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

7.你认为你是否学会学习，独立思考问题？（非常不同意 不同意 非常同意 同意 中立）
Do you think you can learn how to learn and think independently?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

8.你重视掌握自身的运动方法和技能，养成健康文明的健康习惯和生活方式吗？（非常不同意 不同意 非常同意 同意 中立）
Do you value mastering your own exercise methods and skills and developing healthy and civilized habits and lifestyles?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

9.你觉得双减之后与父母的关系更加融洽？（非常不同意 不同意 非常同意 同意 中立）
Did your relationship with your parents improve after the implementation of the Double-Reduction Policy?(Strongly Disagree Disagree Neutral Agree Strongly Agree)

10.你有责任心，勇于担当，对自我和他人负责？（非常不同意 不同意 非常同意 同意 中立）
Are you responsible, courageous, and accountable to yourself and others?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

11.你能热爱并尊重自然，具有绿色生活方式和保护环境意识？（非常不同意 不同意 非常同意 同意 中立）
Do you have a love and respect for nature, a green lifestyle, and an awareness of environmental protection?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

12.您认为“双减”政策总体上改善你的学习状况吗？（非常不同意 不同意 非常同意 同意 中立）
Did the Double-Reduction Policy meet your expectations for improving your education?
(Strongly Disagree Disagree Neutral Agree Strongly Agree)

Appendix B

访谈问题

Interview Questions

家长访谈提纲

1. 您能描述一下双减之后孩子的作业完成情况吗？

Can you describe your child's homework completion after the implementation of the Double-Reduction Policy?

2.孩子作业量减少，校外培训也取消，您对孩子的学习情况的看法是怎样的呢？

How do you feel about your child's learning after the reduction in homework and the abolition of off-campus tutoring?

3.您能描述一下双减后孩子学习态度和学习兴趣是怎样的？

Can you describe your child's attitude toward learning after the implementation of the Double-Reduction Policy？

4.双减之后孩子在家是如何进行自己的兴趣爱好？

How does your child develop his/her hobbies at home after the implementation of the Double-Reduction Policy？

5.您能描述一下双减后孩子与父母的关系状态吗？

Can you describe the state of your relationship with your child after the implementation of the Double-Reduction Policy?

6.关于"双减"政策如何影响您的孩子受教育的状况这一点您还有补充的吗？

What else do you want to share about the effects of the Double-Reduction Policy on your child's education?

学生访谈提纲

1.你能描述一下双减政策后学习状态的变化吗？（作业量，压力等）
How has your learning pressure changed after the implementation of the Double-Reduction Policy?

2. 你的作业量减少，校外培训也取消，你对自己的学习情况的看法是怎样的呢？
With your homework reduced and off-campus trainings cancelled, how do you feel about your present learning situation?

3. 你能描述一下双减后你的学习态度和学习兴趣是怎样的？
Can you describe your attitude and interest in learning after the implementation of the Double-Reduction Policy?

4. 双减之后你是如何进行自己的兴趣爱好的？
How did you develop your hobbies after the implementation of the Double-Reduction Policy?

5. 你能描述一下双减政策实施后你以下能力或精神的改变吗？
1.分析问题的能力 2.探索精神 3.自主学习能力 4.健康生活方式
5. Can you describe the following changes in your ability or spirit after the implementation of the Double-Reduction Policy?:
1. ability to analyze problems 2. spirit of inquiry 3. ability to learn independently 4. Healthy lifestyle

6. 关于“双减”政策如何影响你的学习状况你还有什么补充的么？
What else do you want to share about the effects of the Double-Reduction Policy on your education?