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School as a Battle over Time: How Social Class Influences Taiwanese Senior High School Students' Use of Time in and after School

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School as a Battle over Time: How Social Class Influences Taiwanese Senior High School Students' Use of Time in and after School

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Education

by

Ying-Jie Jheng

2013

ABSTRACT OF THE DISSERTATION

School as a Battle over Time: How Social Class Influences

Taiwanese Senior High School Students' Use of Time in and after School

by

Ying-Jie Jheng

Doctoral of Philosophy in Education

University of California, Los Angeles, 2013

Professor Carlos A. Torres, Chair

The study was to analyze how senior high school students used their time (in-school and after-school time), and also connected their use of time to socio-cultural factors (i.e., social class, gender) as well as academic performance. To this end, the study utilized mixed methods, including both quantitative and qualitative approaches, to collect the required data. The research findings indicated that the Taiwanese three-year senior high school students' use of time was influenced by their cultural capital (parents' disciplinary styles, use of time, the amount of subjects

acquired in cram schools). In particular, the middle-class students had more cultural capital, showed more active learning attitudes, and achieved higher in school, when compared with their working-class counterparts. In addition, female students also achieved higher than their male counterparts. However, there was no observed gender difference in the disciplinary styles of the parents with difference social classes.

The findings also showed that students created a "double-context learning situation" in an ongoing class, which included teacher's context and student's context. There were five types of use of in-class time derived from the interactions between the two contexts: Regular Learning (RL), Hop-on-and-Hop-off Learning (HHL) (on-subject or off-subject), Self Learning (SL) (on-subject or off-subject), Fragmented Learning (FL), and Not Learning (NL). The middle-class students were found to use RL, HHL, and SL by using the "Time-Stealing" strategy to steal time from an ongoing class to read something on their own. By contrast, the working-class students appeared to use RL, FL, and NL, letting the learning time pass.

One of the purposes of this study was to figure out some possible explanations for working-class students with high academic performance and middle-class students with low academic performance, which cannot be accounted for by Bourdieu's cultural reproduction and Willis's cultural production. The working-class students obtained high scores because of the operation of "anti-reproduction" attitude from

their parents, while middle-class students failed in school due to the process of "mutual cultural adaption." In the end, some implications for future research, practitioners, and policy makers are provided.

The dissertation of Ying-Jie Jheng is approved.

Kyeyoung Park

Val D. Rust

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2013

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ACKNOWLEDGEMENTS

I always believe that doing academic research is just like using one's life to exchange words. There are around fifty thousand words in my dissertation, and it did consume a couple of years in my life to make it. After completing the dissertation, my friends always ask me: Was it hard to write it? This is absolutely a difficult question to answer. Why? When I have thoughts in my mind, I would keep writing until 5am in the morning; if not, it was extremely painful to write down even one single word. Put simply, I was going back and forth psychologically between two situations: "glad to write" and "forced to write." It was easy to move from "glad to write" to "forced to write," but it became much harder to move reversely. Fortunately, with the supports and encouragements from my family and friends, I was able to get rid of the status of "forced to write" and kept doing it throughout this writing journey. There was no way for me to accomplish it alone.

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aunt, sister, brother, sister-in-law, and cousins usually take good care of me in all aspects. Tiffany, the most beautiful girl to me and the person I owe so much, always keeps me company. All of you are my priceless treasure in my life.

In the end, like what I did in my master thesis, I would like to thank myself for not giving up. The academic research is an endless, challenging journey, but the best way to deal with the uncertain future is “smile”, just like what Monkey D. Luffy says with a big smile in One Piece: “I look forward to the adventures and challenges ahead!”

VITA

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I. Introduction

The educational attainment of students in schools – and, perhaps more importantly, the reasons behind their varying levels of achievement – still constitutes one of the major themes in the field of sociology of education. A large and growing literature has been geared toward examining the extent to which social class influences students' educational outcomes (Apple, 1979; Bourdieu & Passeron, 1990; Bowles & Gintis, 1976). The focus of these studies has largely been how privileged groups manipulate the educational system to reproduce their social advantages.

In a related body of literature, a great deal of research has demonstrated the relationship between social class and educational inequality (Chiu & Khoo, 2005; Chou, 2008; Hallinan, 2000; Lin, 1999; Shavit & Blossfeld, 1993; Teachman, 1987). For example, Chou's (2008) study showed that the academic achievement of junior high school students in Taiwan was greatly influenced by social class. That is, children of well-to-do families did well in school, whereas children of poor families had low academic performance. Likewise, Teachman (1987) found that parents used material and nonmaterial resources to create a home atmosphere that fostered academic skills, motivation, and orientation in order to help their children obtain higher attainment in education. His results show that the academic achievement of children from middle-class families is higher than their working-class counterparts.

Given that students' educational outcomes are highly related to social class, an urgent concern is to unravel the "black box" in terms of how social class truly functions within the education system. The existing literature mostly relies on two theories: Bowles and Gintis' social reproduction theory and Bourdieu's cultural reproduction theory. In their book *Schooling in capitalist America: Educational reform and the contradictions of economic life*, Bowles and Gintis (1976) argue that dominant groups reproduce their status and power by transforming the educational system into a place where power relations resemble the ones in the broader capitalist society. Specifically, children of high social class parents may be exposed to high-level, abstract knowledge, which cultivates independent personalities. Conversely, children of low social origin could be arbitrarily assigned practical knowledge and manual skills, as well as learning how to obey. Bowles and Gintis have termed this phenomenon the "correspondence principle."

Yet, Bowles and Gintis' model has been heavily criticized (Apple, 1980; Giroux, 1980; Morrow & Torres, 1995). For instance, Morrow and Torres (1995) point out the internal problems of Bowles and Gintis' general approach (e.g., methodological ambiguities and inconsistencies), which make their argumentation vulnerable. They also point out that Bowles and Gintis did not consider the role of the state, and failed to consider the dynamics of public education.

Instead of focusing on the level of social structure, as do Bowles and Gintis, the French sociologist Pierre Bourdieu proposes cultural reproduction theory. In his most influential book on the subject, *Reproduction in education, society, and culture*, Bourdieu and his associate Jean-Claude Passeron (1990) assert that educational inequalities are realized through the operation of cultural aspects. By analyzing the relationship between linguistic capital and degree of selection, Bourdieu and Passeron argue that linguistic competence (French) plays an important role in students' learning because "the understanding and use of language are the major points of leverage for teachers' assessments" (p. 73). Hence, language is not simply a tool of communication, but also represents "the capacity to decipher and manipulate complex structures, whether logical or aesthetic" (p. 73). Notably, this capacity "depends partly on the complexity of the language transmitted by the family" (p. 73).

Given that the function of schooling depends on students' linguistic competence, the academic performance of middle-class students may be better than their working-class counterparts: "the unequal social-class distribution of educationally profitable linguistic capital constitutes one of the best-hidden mediations through which the relationship between social origin and scholastic achievement is set up" (pp. 115-116). In Bourdieu and Passeron's view, children from advantaged backgrounds do well in school because the cultural climate in the educational system mirrors that of

their homes. In contrast, children from disadvantaged backgrounds, when entering the school context, would feel a cultural barrier due to the disconnection between the culture of their homes and that of the school. In other words, the educational system to a large extent reproduces and disseminates the dominant culture.

In line with Bourdieu's cultural reproduction theory, this study uses one of his central ideas, *cultural capital*, as the main theoretical perspective. In my view, one of the reasons that may account for students' educational success is whether or not they can utilize their time in an efficient and planned way, which could be regarded as a part of cultural capital acquired at home. It has been said that middle-class families transmit their cultural capital to their children through various interactions in daily life, i.e., participating in cultural activities, arranging a series of learning activities, reading together, and discussing future plans (Chang & Chen, 2006; Lareau, 2002). Through the process of transmission (or reproduction), it is very likely that children also learn how to use their time smartly, mimicking the time management strategies of their parents. In this regard, using time efficiently is not merely restricted to the level of individual subjectivity; rather, behind the surface there are other hidden social factors at work. Analyzing the way that children from different social classes use their time can be an important way to subtly reveal the influences of social class on educational outcome.

With respect to Taiwanese students' study, it is necessary to contextually situate this topic within the Taiwan National Standardized Examination. Under the oppression of this highly articulated mechanism of examination students have to bear much pressure and stress (Jheng, 2009). Students are expected to follow the rules of the highly articulated mechanism, play their roles correctly by spending all of their time studying in order to stand out in this extremely competitive examination, and, ultimately, win the "ticket" for entering the top-ranked schools.

Yet, while students in Taiwan are expected to be at school, the question arises: will all students emphasize studying and spend time accordingly? In my previous research on elementary students' play groups, working-class students were found to value play time during recess more than studying in class, while their middle-class counterparts expressed a nearly opposite view. Other studies done in Taiwan also indicate that junior high school students, especially those who come from working-class families, regard play as their primary interest because they are disappointed with "the oppression" of the educational structure (Chong, 2008; Huang, 2004). These results have prompted me to further consider the situation of senior high school students, who bear more pressure because of the National Examination that takes place upon graduation.[1] Therefore, as mentioned previously, one might expect

[1] According to the Ministry of Education (2009), the total number of the test takers in 2009 was 78,687. The exact number of admitted students was 76,434. The enrollment rate was 97.14%. Apparently, access to higher education in Taiwan is almost a non-issue. Ironically, even though the enrollment rate

that these students would make studying a top priority. However, is it that simple?

This research is aimed at understanding whether senior high school students prefer to spend a majority of their time on academic studies, or conversely, emphasize something else, such as leisure activities, rather than prioritizing their studies. Furthermore, my research also addresses the possible reasons behind this phenomenon, which I see as intimately connected to cultural capital.

To achieve the aims of this research, both quantitative and qualitative methods were employed as a means for collecting more comprehensive data and to explain the phenomena under study in a multifarious analytical model. The quantitative approach was helpful in clarifying the differences of Taiwanese senior high school students from different social backgrounds, in terms of the relationship between their use of time and academic performances. The qualitative approach further explored why they spent their time in a particular way at school, as well as analyzed their feelings about school and self-expectations. The role of the family in supporting their children's education and study habits was also discussed.

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is 97%, students still feel stressed because of the limited offers of "star universities." That is, most students compete with each other in order to enroll in the so-called "star universities", such as National Taiwan University, National Tsing Hua University, etc. Hence, the hierarchical ranking of the universities in Taiwan is still a big issue, and leads to an extremely competitive learning atmosphere for students.

II. Personal interest and statement of problem

This study aims to understand the differences between working-class and middle-class students' use of time and their academic performance. Along the same lines, I go further to analyze any possible differences in parents' educational support, referring to the issue of "culture capital," and student expectations for the future. My interest in this particular problem is a result of both my personal observations and my academic experiences. I would like to discuss my experiences and observations in three different educational levels: elementary school, junior high school, and senior high school.

1. The lives of Taiwanese elementary school students

When I was a master's degree student, I took part in an educational project at National Taiwan Normal University (NTNU), where I was in charge of participation observations in both elementary school and junior high school. In the elementary school context, I found that the lives of elementary school students represented three categories of learning. In the first model, certain students did something not connected to the ongoing class, including trifling with rulers, pens, and erasers, and waiting for a 10-minute break where they could play their favorite games. Another category was students who emphasized both studying in class and playing during the 10-minute break. In general, this type of student was extremely busy, and often got home after

9:00 pm. Therefore, the 10-minute break was their only playtime. The third category was students who did not like the 10-minute breaks because they had nothing to do during break. These students preferred class time.

2. The lives of Taiwanese junior high school students

During my time in the classroom, I found that some junior high school students engaged in activities that were irrelevant to the activities of the class, such as chatting, texting, sleeping, daydreaming, or looking forward to a 10-minute break. Interestingly, some even read English in Chemistry class, or read Chinese in English class, which meant that they virtually ignored the class they had at that time.

Based on these observations, I propose that one of the possible reasons why students excluded themselves from any class activity, which to some extent violated school rules and timetable, as well as failed to follow the rhythm of school, is that they had their own logics of operation. This logic of operation was embodied in their ways of arranging their time. For example, if students had a big test at cram school, they would sacrifice every class at school just for that test. In addition, some students would think that the 10-minute break was more important than the class.

3. The lives of Taiwanese senior high school students

Lastly, it is also necessary to introduce some contextual information regarding the lives of Taiwanese senior high school students. Having experienced it firsthand, I, at least, see the majority of Taiwanese senior high school students as belonging to one of two main groups. These group distinctions operate smoothly, ordinarily, and even unconsciously, in daily life. The first is the extremely busy student (as I used to be during my senior high). This student rushes to and from school, cram school and home, and pursues any chance to enhance his or her grades. In contrast, the other type of student focuses on what and where to play and how to dress in the most fashionable styles in order to keep up with new trends, while not prioritizing school performance. These two kinds of lifestyles reproduce themselves everyday, representing certain social logics and rhythms of life in terms of disparate perspectives, values and expectations. Yet, what causes this division? What are some of the meanings behind adapting to these lifestyles?

In conclusion, as mentioned above, there is a line that connects these three different educational outlooks. That is, students have their own ways of viewing the external world, and, consequently, arrange their own to-do lists, spending time accordingly, despite the fact that it may conflict with the so-called school rules, expectations of adults, or broad social notions of the role of students.

Hence, in this study, I focus on the lives of senior high school students. In general, putting this phenomenon into the social context in Taiwan, most senior high school students are forced to confront the unhealthy atmosphere of competition, thereby developing personal means of coping and survival (Huang, 2004). Under this highly articulated mechanism of examination, there are at least two issues worth noting. The first is the relationship between standardized testing and social inequalities. This relationship has been widely discussed (Camara & Schmidt, 1999; Grodsky, Warren, & Felts, 2008; Wang, 1983). These studies indicate that social inequalities are to some extent transmitted via standardized testing. For instance, Camara and Schimidt (1999) argue that our society is stratified along lines of race and social class, and standardized test scores reflect that fact. As a result, they conclude that standardized testing has reflected, reproduced, and transformed social inequalities. Second, under standardized testing, the direct influences on senior high school students are the requests from schools, teachers and parents. In order to respond to the challenges of the examination mechanism, schools and parents may stick together to schedule a series of learning activities to guarantee student success.

The underlying conflict, however, is whether or not senior high school students passively accept, follow, and behave according to these expectations, and ultimately consider “studying” as their top priority. It has been shown that students, particularly

those from working-class families, often regard “studying” as meaningless; conversely, middle-class students seem to obey school rules and parental requests (Chiu, 2007; Willis, 1977). Hence, a focus on how senior high school students from different social classes respond to standardized testing as well as adults’ requests is still necessary.

In this vein, this research addressed the following questions: What is the relationship between the Taiwanese standardized examination and social inequalities? Do senior high school students from different social classes respond differently to the “highly articulated mechanism of examination”? If so, when does the difference begin? Is this difference embodied in their daily arrangements, ways of spending time, and expectations of their futures? Is this difference related to parents’ level of educational support (cultural capital)?

This research allowed us to more clearly define the relationship among students, parents and schools under the atmosphere of the mechanism, as seen in Figure 1. As Figure 1 illustrates, when a student enters a given level of the educational system, which would articulate as a mechanism upon local school, parents and students, s/he cannot help but participate in the “racing game” from primary school to college. How far a student can go depends on whether s/he is surviving or giving up. Afterwards, the experiences of joining this game, and students’ success or failure within the game,

may help to shape their use of time, feelings and self-expectations.

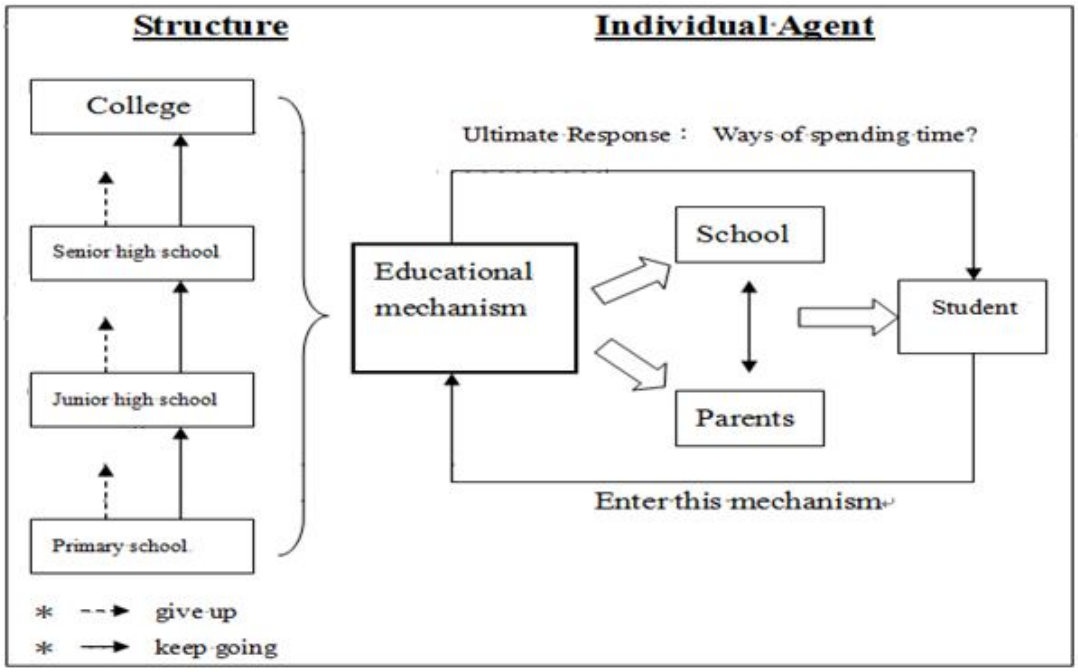


Figure 1 Interest of research

III. Significance of the study

Moving with the trajectory of time, all creatures on Earth develop by following their own rhythms. Although they may develop in various ways, there is one underlying similarity, namely, the amount of time. Time, which is given by nature, is the fairest gift for human beings regardless of gender, age, class, race or status, because the amount of time is ultimately unchangeable. Within the operation of this "natural rule," people have built a social system in order to deal with the increasing number of interactions occurring in our daily lives. Consequently, we have come up

with a “social rule,” in terms of a 24-hour day, which is used to guide social members’ behaviors. Moreover, those 24 hours are divided into “work time” and “off-work time.” Most social members accept and comply with this living rhythm. In this regard, the social rule is as powerful as the natural one.

Returning to the question of schooling and the advent of school systems, students’ time, in general, is categorized into “school time” and “after-school time.” In terms of “school time,” previous research has typically focused on issues of how to schedule school time efficiently in order to produce high outcomes (Cheng, 1993; Gau, 2001), principals’ ways of managing time, and how teachers can use time in more productive ways to enhance student learning (Chang, 1994; Gou, 2002).

Yet, the aforementioned research conceptualizes “time management” from the narrow angle of teachers or administrators. That is, it fails to consider students’ perspectives on school time. Although there is an established timetable at school and teachers have their own ways of managing time in class, students may respond to them in different ways, even creating their own concept of time (Bruno, 1995; Huang, 2003). Hence there is an emergent need to understand students’ interpretation of school time.

As for “after-school time,” existing research tends to center on how students choose and arrange their leisure activities after school (Chen, 2003; Ding, 2003; Hu,

2003; Huang, 2002; Wang, 1995). This type of research, however, is almost always conducted neutrally. Specifically, it superficially mentions that students may have a variety of leisure activities, but lacks discussion of the possible reasons behind the differences in students' choice of activities. In this regard, the field demands further examination of why students have different opinions and preferences even though they experience the same popular culture in terms of games, leisure activities, and so on.

In spite of studies that directly emphasize the issue of time, some research also indirectly points out the effect of time. For example, plenty of research indicates that parents from different social classes discipline their children differently (Chang & Chen, 2006; Dai, 1989). Furthermore, parents from different social classes may have distinct ways of arranging their children's learning activities (Lareau, 2002). This phenomenon relates to the ways that parents control their children's ways of spending time. Middle-class parents, compared with their working-class counterparts, are more likely to arrange a series of learning activities for their children. I argue that when parents meticulously prepare these kinds of activities, they are simultaneously transmitting messages of using time efficiently and wisely, as a form of cultural capital to their children. Conversely, the kinds of messages that working-class parents give their children is another interesting issue in terms of whether or not

working-class parents induce their children to have a good use of time. Furthermore, there still may be a contradiction between the goals and expectations of children and parents, either middle class or working class.

To conclude, although there is a wealth of research on the topic of time, there are two major gaps that need to be filled. First, my research examines students' interpretations of school time and after-school time, and the connection to their real behaviors in schools and academic performance. Secondly, I attempt to understand the extent to which social class plays a role in this process. To fill the gap in the current body of research, I utilize a quantitative approach to clarify the relationships among social background, cultural capital, students' use of time and academic performance. This process helps us to understand this relationship in more depth and provides insight into the various factors that affect student achievement.

Along with the quantitative aspect of the study, I also adopt a qualitative approach in terms of follow-up analysis. That is, after revealing the interactions among social class, cultural capital, time use and academic performance, I want to further understand students' real manners at school. I examine how students feel during their learning process under the pressure of the mechanism of examination in Taiwan. In general, I describe four types of students (Figure 2). Types 1 and 4 generally correspond to the result of previous research, whereas Types 2 and 3

conflict with previous findings.

		High Performance	Low Performance
		A	a
Middle class	B	1(AB)	2(aB)
Working class	b	3(Ab)	4(ab)

Figure 2 Social background and academic performance

In this regard, I focus on middle-class students with low performance (Type 2) and working-class students with high performance (Type 3). Because both of these types confront the assumption that academic performance is directly proportional to social class (cultural capital) (Bourdieu & Passeron, 1990), I look for other possible explanations.

Hence, this research, combining both quantitative and qualitative approaches, draws a holistic picture of students' study habits, social background and academic performance, including four pathways (Figure 3). It also provides more guidance to help unpack this "black box," particularly in its exploration of why some middle-class or working-class students behave "outside" of expectations in academia.

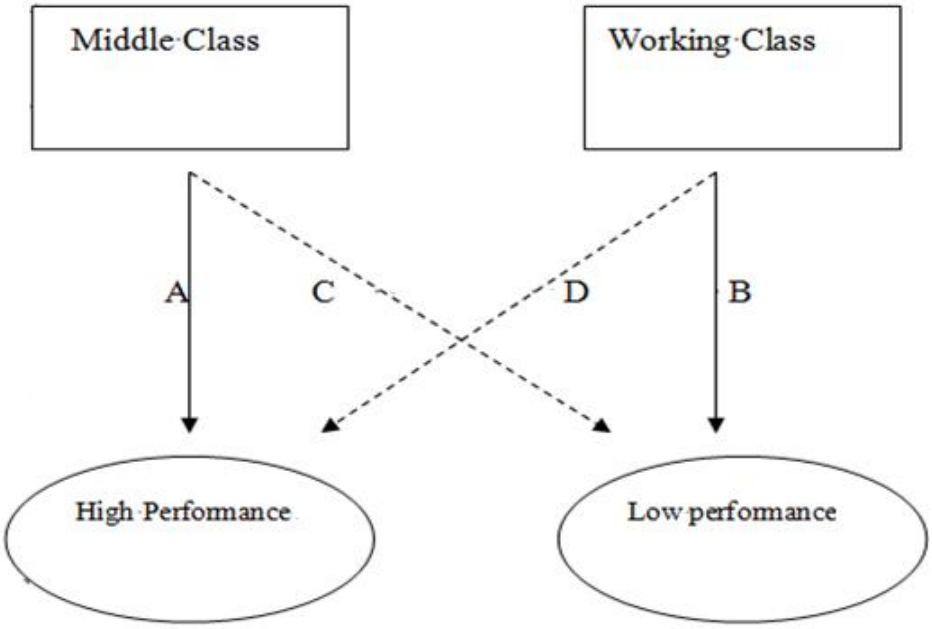


Figure 3 Four pathways between social class and academic performance

IV. Research questions

The following are the research questions guiding my study.

- Do students' social backgrounds influence their cultural capital?
- To what extent does cultural capital influence academic performance?
- How do students spend their time, both in and after school?
- How do students from different social classes use their time in and after school?
- What are the relationships among parents' disciplinary practices, attendance at cram school, students' use of time and academic performance?
- What are the possible explanations for the achievement of middle-class students with low performance and working-class students with high performance?

V. Theoretical framework

My research focuses on senior high school students' use of time and its relationship to academic performance and self-expectations. Because social class is an important variable related to these factors, I apply Pierre Bourdieu's concept of cultural capital as my theoretical framework. This assertion is grounded in the understanding that it is likely that students' use of time may be influenced by their parents' values and behaviors. Yet, this study does not intend to merely confirm Bourdieu's cultural reproduction theory. Instead, it is designed to explain some distinct phenomena, as mentioned above, that cannot be accounted for by cultural reproduction theory alone.

In terms of building the theoretical framework of this study, there are four parts in this section. First, I broadly discuss the phenomenon of reproduction in education. Second, the impact of cultural reproduction on education is addressed, focusing on the theoretical level. Third, at the practical level, the relationships among cultural capital, students' use of time and academic performance are discussed. Finally, I discuss the situation of students' responses in the context of school.

1. Reproduction in Education

The relationship between educational inequality and social class has gained much attention in the field of sociology of education. Researchers often examine this

relationship according to their own research interests and perspectives (Apple, 1979; Bernstein, 1971; Lareau, 1987). Despite the differences in research approaches, this type of research implies that the function of an educational system may be impacted by social class, in terms of students' academic performance and self-expectations (Coleman, 1990; Hallinan, 2000; Shavit & Blossfeld. 1993). This section will discuss theories of reproduction in education, including social reproduction and cultural reproduction.

Before introducing these two theories, the term, "reproduction," must be briefly addressed. The term "reproduction" was initially used by Karl Marx (1965). Marx asserts that the process of social production is simultaneously the process of reproduction, especially in terms of the reproduction of the relationship between bourgeois and proletariat. Neo-Marxist scholars have applied this idea to account for how the educational system per se has been transformed into a mediator that enables privileged groups to reproduce their power, status and social advantages (Tan, 1998).

Along the same lines, the neo-Marxists severely criticize the assumption of structural functionalism, which asserts that the educational system is neutral and merit-based. These scholars have attempted to reveal the processes of reproduction in education from both macro level (Bowles & Gintis, 1976) and micro level (Bernstein, 1971; Bourdieu & Passeron, 1990). In their book *Schooling in Capitalist America:*

Educational Reform and the Contradictions of Economic Life, based on the development of the American educational system, Bowles and Gintis (1976) analyze how privileged groups control education to reproduce social class in a capitalist society. They assert that education is subordinated to capitalism, and the operation of the educational system – from the structure of schooling, curriculum, and instruction, to educational outcomes – corresponds to capitalist society. In this model, social mobility via schooling is difficult because education is a tool for reproducing hegemony. Thirty years after the publication of their seminal work, Bowles and Gintis (2002) reexamined the relationship between education and capitalist society, concluding that American education still plays an important role in social reproduction[2].

With respect to cultural reproduction, French sociologist Pierre Bourdieu and his associate Jean-Claude Passeron (1990), indicate in their book *Reproduction in Education, Society, and Culture,* that social reproduction is not achieved via social structure alone. Instead, social reproduction becomes a reality via cultural reproduction. Specifically, according to Bourdieu, dominant groups control the educational system, and arbitrarily integrate their ideology into the process of schooling. What has been taught in the educational system is largely a reflection of

[2] There has been a great deal of controversy and criticism of Bowles and Gintis. Please see the following studies for more discussions: Apple (1980), Giroux (1980), Morrow & Torres, (1985), and Olneck & Bills (1980).

the dominant culture. Consequently, disadvantaged groups are excluded due to potential cultural barriers.

The theoretical framework of this study was built upon Bourdieu's cultural reproduction theory. More details about cultural reproduction theory are discussed in the following section.

2. The Impact of Cultural Reproduction on Education (Theoretical Level)

2.1 The interactions among habitus, capital and field

Bourdieu (1977/1984) uncovers the process of reproduction by analyzing cultural aspects in the context of schools. Bourdieu's (1984) theory of cultural reproduction can be expressed as a formula: "(habitus) (capital) + field = practice (p. 101)." Bourdieu (1977) defines habitus as a continually operating system of "disposition," integrating someone's past experiences and actions, which then becomes the schema for perception, appreciation and action (p. 78). Furthermore, disposition is teachable, durable, generative, transferrable, accumulative and is connected to social class's habitus. Bourdieu makes a distinction between the petty-bourgeois' cultural good will, and the working class' choice of the necessary (Bourdieu, 1977/1984).

Bourdieu (1986) also proposes three types of capital: economic capital, social

capital, and cultural capital. Economic capital is the most basic form of capital (i.e., money, materials, resources) and serves as the foundation of the other types of capital. Social capital refers to social networks, which are not built upon kinship, but derive from the relationships in any given group or organization. In general, the wider the social network one has, the more social capital one obtains. Cultural capital refers to the cultural background, knowledge, literacy, taste, and action from generation to generation. Notably, Bourdieu asserts that these three types of capital can be interchangeable.

Regarding the concept of "field," Bourdieu and Wacquant (1992) argue that there are many different fields in society. Within each field, individual agents, occupying different oppositions, compete for interests and the control of capital in order to protect or enhance their status.

In terms of the relationships among habitus, capital, and field, Bourdieu (1993) indicates that they interact with each other, and different capitals have distinct functions according to the type of field. Bourdieu and Wacquant (1992) propose a notion of "admission fee (p. 107)," which means that one is accepted by a group when s/he has some "proper" and "right" capital. In other words, certain capitals do not function in some fields. In this study, I focus on cultural capital, which influences the operation of education in a hidden way.

2.2 Cultural reproduction through cultural capital

The concept of cultural capital is Bourdieu's most influential theory. Cultural capital, transferred by parents, refers to one's cultural ability, disposition, knowledge, literacy, action and cultural taste of high-brow culture (Bourdieu, 1986). According to Bourdieu, there are three types of cultural capital: the embodied cultural capital, the objectified cultural capital and the institutionalized cultural capital. The embodied cultural capital exists as disposition, including personality, behavior, talk, gesture, etc. It is accumulated by parenting and assimilation over years, and cannot be obtained in a short period of time. In addition, because this type of cultural capital is within one's disposition, it becomes the basis of the other two types of cultural capital. Objectified cultural capital can be seen as cultural goods. It includes all forms of materials and resources that one possesses, such as books, dictionaries, and stationary. Yet people may have different types and amounts of objectified cultural capital because of the difference in embodied cultural capital as well as economic capital. Institutionalized cultural capital is related to formal diplomas, credentials or certificates, which are used to demonstrate one's familiarity with certain abilities or cultural tastes.

With regard to how privileged groups dominate school systems via cultural capital, as well as reproduce their social statuses and advantages, Bourdieu (1984) argues that the function of education is to distribute privileged groups' cultural capital.

This cultural capital reflects dominant ideologies and values because the elite decide what types of knowledge, codes or rules should be included in or excluded from education. In this regard, school systems transmit and realize privileged groups' cultural capital and contribute to the phenomenon of reproduction.

3. The Relationships among Cultural Capital, Students' Time Use and Academic Performance (Empirical Level)

3.1 The relationship between cultural capital and academic performance

Plenty of research in Taiwan has demonstrated that the more cultural capital students have, the better they perform academically (Chang, 2006; Chang, 2009; Lin, 1999; Hsieh, 2003; Li, 2003; Lin & Huang, 2008; Su & Huang, 2009; Wang & Yo, 2005). Some research, however, has revealed different findings, indicating that there is no significant correlation between cultural capital and academic performance (Chen & Cheng, 2000; Huang, 1996; Sun & Huang, 1996). The reason for this contradiction, as Chang and Chen (2006) argue, is that researchers may inappropriately define the term cultural capital and fail to capture its meaning. In that respect, my study analyzes the previous research in terms of how it defines "cultural capital," in order to come to a better understanding of how to define cultural capital, especially in the Taiwanese

context.[3]

Research dealing with the issue of cultural capital and its relation to academic performance has shown different results across countries. According to DiMaggio and Mohr (1985), DiMaggio (1982), Kalmijn and Kraaykamp (1996), Dumais (2002) (in the U.S.), De Graaf (1986) (in the Netherlands), Sullivan (2001) (in England) and Graetz (1988) (in Australia), there is a definite relationship between cultural capital and academic performance. Yet, other studies (e.g., Katsillis & Rubnson, 1990, in Greece; Robinson & Garnier, 1985, in France) have argued that a clear relationship between the two cannot be found.

It is evident that some contradictions remain when conducting research on cultural capital, which may be one of the reasons for the inconsistent results across contexts. For example, as Morrow and Torres (1995) argue, Bourdieu's theory is highly rooted in the French society, so if we could go beyond "the peculiarities of the French case, his approach clearly is applicable to the full range of educational systems." (p. 213). Hence, I further analyze the previous research, pointing out the existing contradictions, and then proposing potential ways to dissolve these

[3] According to Pierre Bourdieu, the possession of cultural capital is related to people's familiarity with high-brow cultural activities. However, the definition of so-called high-brow cultural activities would be different across contexts and from time to time. Specifically, the notion of cultural capital was generated in French society, and it had political and historical continuity. Yet, in this study the research site is rooted in the Taiwanese context, and there has been a special political issue between Taiwan and China since Taiwan was separated from China in 1949. Even though there is a political and geographical separation between Taiwan and China, a certain cultural similarity remains. This study does not distinguish Taiwanese culture from Chinese culture in this regard. In addition, this study does not merely focus on the exact forms and contents of cultural activities, but rather on people's attitudes toward these high-brow cultural activities as well as the symbolic meaning behind them.

contradictions in order to implement his theory in the Taiwanese context.

First, this study posits that the definition of cultural capital should be adjusted to social contexts (Dumais, 2002; Lareau, 1987). As this study was administered in Taiwan, its definition of cultural capital was rooted in the Taiwanese context. Previous research on cultural capital in Taiwan is divided over whether or not cram school should be viewed as a kind of cultural capital. Some see it as a type of economic capital (Chen, 1999; Chen, 2005; Wu, 1999), whereas others take an opposing stance (Chou, 2008; Wang & Yo, 2005). This study views cram school as a kind of cultural capital, drawing on previous research that shows that middle-class students have more opportunities to access cram school, and thus have better academic performance as compared with their working-class counterparts (Hsieh, 2003; Sun & Huang, 1996). In addition, cram school may help students accumulate their knowledge other than formal school[4], as one of the elements of cultural capital. Furthermore, when parents invest their economic capital in cram school and arrange a series of learning activities for their children, they transmit an important message to their children that using time efficiently is crucial. This message may be internalized by children, and thus become a part of habitus.

[4] According the educational law enacted in 1985, and modified in 2011 (Ministry of Education, 2011), all in-service teachers are not allowed to have part-time jobs, including teaching in any kinds of cram school. Hence, there is no obvious overlap between formal school and cram school. In addition, even though some schools would ask students to stay at school for self-studying till 8 or 9pm, those are not the classes as provided in a given cram school.

Second, there is a debate over whether researchers should examine parents' cultural capital, children's cultural capital, or the process of transmission. This study is in favor of the process of transmission, arguing that it is important to understand how parents interact with their children. Some researchers (e.g., DiMaggio, 1982; Dumais, 2002; Katsillis & Rubinson, 1990; Soo-yong Byun, 2007; Sullivan, 2001) hold the same position, showing evidence of the intergenerational transmission of cultural capital. In other words, while social class to some extent determines parental cultural capital, parental cultural capital in turns determines children's cultural capital.

The relationship between parents' and children's cultural capital has been examined by Chang and Chen (2006) in a more subtle way, through a qualitative approach to understanding how middle-class parents transmit their cultural capital by disciplining their children, including aspects of behavior and future arrangement. Their research demonstrates the ways in which parents transform their embodied cultural capital into objectified cultural capital in the transmission of their values, attitudes, lifestyles, and dispositions, as a part of habitus, to their children during disciplining.

Third, existing research also shows that the operation of cultural capital may be mediated by gender, so it is worth noting with regards to gender differences. Specifically, it has been said that parental cultural capital may influence boys and girls

in distinct ways (DiMaggio, 1982; DiMaggio and Mohr, 1985; Dumais, 2002; Li, 2003; Robinson & Garnier, 1985; Teachman, 1987). For example, Dumais (2002), by analyzing the cultural participation of eighth-grade boys and girls, found that girls receive better returns to their cultural participation than do boys. That is, female students are more likely to participate in cultural activities and may also be more encouraged to make use of their cultural capital to succeed in school than their male counterparts. Accordingly, this study takes gender into account in terms of addressing the following question: Does cultural capital influence boys and girls in different or similar ways?

Fourth, according to DiMaggio (1982), English, History, and Social Studies are subjects in which cultural capital can be expected to make a difference. In contrast, cultural capital should have little influences on mathematics, which requires the acquisition of specific skills in the classroom setting, and where students are evaluated primarily on the basis of their success in generating correct answers to sets of problems. However, Lareau (2003) has noted that technical skills, including academic skills, should not be excluded from cultural capital. Similarly, many researchers (e.g. Chang, 2006/2009; Lin, 2002; Li, 2003; Lin & Huang, 2008; Soo-yong Byun, 2007; Su & Huang, 2009) have demonstrated that technical subjects, especially mathematics, may be influenced by cultural capital. This study uses the

scores on "Comprehensive Analytical Ability," which includes the questions of mathematics, language, reasoning, science, as the primary indicator for academic performance.

3.2 The relationship between time use and academic performance

Thus far, the association between cultural capital and academic performance has been addressed. I now turn to another paramount factor accounting for students' learning, that is, use of time. In general, the academic performance of students greatly relies on whether they can use their time efficiently. The association between use of time and academic performance has been thoroughly demonstrated in previous research (Grave, 2011; Lockheed, Fuller & Nyirongo, 1989; Luo, Paris, Hogan, Luo & Zhiqiang, 2011). Specifically, these studies have shown that if students can schedule and arrange enough time for their studies, they may increase their possibility of obtaining higher scores.

The previous research on the issue of time typically uses the term "time management" and can be categorized into three types: 1) an analysis of how school leaders make good use of time to enhance the efficiency of administration as well as students' academic performance (Chang, 1994; Gou, 2002); 2) an analysis of how teachers utilize time in class in an efficient way (Cemaloglu & Filiz, 2010; Cheng,

1993; Gau, 2001); and 3) an analysis of how students manage and use their time, and its relation to their academic performance (Grave, 2011; Johnson & Moulden, 2011).

For the most part, these studies have been conducted from the perspectives of administrators or psychologists. Research on the issue of time has rarely been conducted and analyzed from a sociological approach (e.g., social class, gender). This study argues that in order to capture the sociological and cultural meanings behind students' use of time, it is necessary to employ a sociological approach. To fill the gap, this study situates students' use of time from a sociological perspective, relating use of time to cultural capital. This aspect is discussed in more depth in the following section.

3.3 The relationship between cultural capital and time use

In spite of the research that directly emphasizes the issue of time without sociological explanation, some studies indirectly point out possible sociological effects on use of time. For example, a good deal of research indicates that parents from different social classes discipline their children differently (Chang & Chen, 2006; Dai, 1989). Furthermore, parents from different socioeconomic-status groups tend to arrange their children's learning activities in different ways (Lareau, 2002). This further relates to the ways that parents control their children's ways of spending time.

Middle-class parents, compared with their working-class counterparts, have been found to be more likely to arrange a series of learning activities for their children.

Following these findings, I argue that when parents meticulously prepare learning activities for their children, they simultaneously transmit messages of using time efficiently and wisely. Thus, arranging activities is a means of transmitting cultural capital to children from parents who model certain behaviors. Through this process, children may obtain a particular kind of educational disposition, which is analogous to the school context of doing things by following a school timetable, as well as writing and turning in homework on time (Tan, 1998). For middle-class students then, the way of using time at home is almost the same as in the school context, allowing them to smoothly adjust to the school environment.

In addition, students' use of after-school time is an important aspect of study. According to past research in Taiwan, the top four leisure activities in Taiwan are: playing video games, watching TV, surfing and chatting on the Internet, and hanging out with friends (Chen, 2003; Ding, 2003; Hu, 2003; Huang, 2002; Wang, 1995). Yet, as mentioned earlier, students have limited free time. Thus the more time students spend on certain activities, the less time they spend on studying. Past studies have not addressed the reasons for the differences in students' choice of leisure activities as well as the amount of time spent on their leisure activities. This research provides

some sociological explanations that address those differences.

4. Students' Responses in the Field of School

Another concern of this research is developing a possible explanation for students whose behaviors do not match those predicted by cultural reproduction theory. These groups include middle-class students with low academic performance and working-class students with high academic performance. In order to address this issue this study examines how students with different levels of cultural capital behave at school. In this section, I first briefly introduce the highly articulated mechanism of examination in Taiwan and the effects of social class on students either crossing the "hurdles" or failing. I then turn to a discussion of students' reactions, feelings and self-expectation. Finally, some comments are addressed.

4.1 Taiwanese students' lives under the giant mechanism of exanimation

In Taiwan, there is a meticulously established, highly articulated mechanism of examination used for screening students from primary school to graduate school (Jheng, 2009). Each student in Taiwan inevitably has to face this structure. Given that each social class has an unequal amount of cultural capital, when students equipped with different amounts of cultural capital enter a school system, they do not all possess the same tools to navigate and survive in the system. As has already been

discussed, working-class students obtain less cultural capital and are more likely to fail in this "race" than their middle-class counterparts. As Wang (1983) points out, the opportunity of college entrance is inherently unequal because through this mechanism many students, especially working-class students, have been ruled out even before entering college due to a lack of cultural capital. For these students, learning is relatively rocky and harsh. Boudon (1974) also indicates that lower-class children hold the disadvantaged position at every stage of life, and these disadvantages are accumulated over time. Therefore, even though lower-class students may successfully conquer one layer of the structure, there may still be a harder one ahead.

In any case, the results of the above research confirm Bourdieu's perspective that the educational system is a tool for transmitting middle-class culture, which favors middle-class students' learning. Conversely, the educational system becomes a barrier to working-class students.

4.2 Student's feelings within this mechanism of examination

Thus far, the relationships among cultural capital, school systems and academic performance have been discussed. In this section, I focus on how students behave and feel when living in this context – a perspective that has been relatively absent in previous research. Huang (2004) indicates that junior high school students in Taiwan

are good at producing a "playing" culture. He argues that some students fully understand that studying is extremely important, but when confronting the giant mechanism they realize that no matter how hard they try, there is no possibility of changing their fate of failure. Instead of fighting, these students accept their given fates of failure passively, coming to school for playing or making trouble. In addition, he argues, these students may not entirely follow school timetables. Instead, they create their own timetables, which are often contrary to the formal ones. However, Huang's work does not address whether there are differences between students' perception of time and social class.

Huang's (2004) study does have some parallels to the work of Willis (1977) in the UK. Willis (1977) argues that "lads" influenced by the working-class culture think that the most important thing for them is money. Therefore, they not only highly appreciate taking part-time jobs in order to make money, but also disdain school knowledge and diplomas. In other words, while they live and act within a school context and feel disappointment with the educational system, they develop contradictory feelings and values about school and its importance in their daily lives.

4.3 Some critiques on the past research

On the one hand, the existing research helps us to draw a picture of how students

interpret the school system. On the other hand, it shows the possibility that students from different social origins may have their own ways of spending time and expectations about the future. They either comply with school rules or violate them purposefully. Yet some questions still remain. First, as Huang (2004) and Willis (1977) point out, working-class students may have their own timetables. This leads us to question: Is it possible that middle-class students have their own timetables as well?

As has been previously discussed, some students in Taiwan have been observed to adopt alternative or contradictory practices during teacher-led activities. Berliner (1990) analyzes American students' use of time in school, and emphasizes the importance of "time-on-task" in term of spending class time on teacher-led learning activities. He associates "time-on-task" with students' academic performance, arguing that when students devote more time to "time-on-task", they are expected to have higher academic performance. His work implies that if any given student spends class time on activities that are not related to teacher-led learning activities, s/he would not perform well academically.

Yet, this assumption is quite problematic since some students in Taiwan, as mentioned earlier, while not following the requests of teachers in class, are still doing something productively by themselves, such as reading their own books or preparing for upcoming tests. While this phenomenon may not occur as frequently in the

Western world, it is quite common in Taiwan. Thus my research sought to uncover the reasons for the following questions: What are the reasons for this phenomenon? What is the relationship between this phenomenon and students' academic performance? What social origin are these students? Finally, how do they interpret this behavior?

In addition, DiMaggio (1982) proposes the notion of "cultural mobility." He asserts that it is not merely cultural reproduction occurring in school, but also cultural mobility. For example, in his research, he found that working-class students could still have a chance to move upward via cultural capital. However, DiMaggio's study failed to account for why middle-class students fail in school, as well as the subtle processes of how working-class students succeed.

In any case, I contend that neither cultural reproduction nor cultural mobility can explain why middle-class students have low academic performance or why working-class students have high academic performance. Thus, some possible explanations are needed.

VI. Methodology

This research used mixed methods. Morse (2003) mentioned that "mixed methods design is the incorporation of various qualitative or quantitative strategies within a single project" (p. 190). My study included both quantitative and qualitative

research methods. There are two principal reasons for this research design. First, one of the aims of this study is to clarify the relationships among social class, cultural capital, time use, and academic performance. Second, this research attempts to understand whether or not students who have different amounts of cultural capital behave differently in terms of how they spend time at school. Finally, I wanted to explore how students felt about their studies and their future educational aspirations.

I used quantitative research methods to achieve the first aim. At the stage of quantitative research, this study took a deductive approach. That is, I undertook an extensive review of the previous research, and then designed my quantitative research hypotheses. Along with the quantitative section, qualitative research methods were simultaneously utilized. The qualitative approach allowed me to grasp students' subtle feelings and thinking. In conducting qualitative research, I relied on inductive principles. In terms of specific methods, interviews were used. In this aspect, I held the position of insider in order to create a reciprocal relationship with my research participants. During the stage of qualitative research, I endeavored to understand their lives in school, in terms of what kinds of experiences, difficulties and challenges they had. Through the frequent interactions with my research participants, we built a relationship of mutual trust. This relationship enabled me to obtain much deeper information about the field and examine students' more personal thoughts and

feelings. In so doing, I collected data from the perspective of an insider and interpreted data contextually.

For the purposes of this study, mixed methods approach that utilized both quantitative and qualitative methods helped me obtain a rich set of data that assisted my understanding about the interactions of variables as well as students' real manners and feelings. As Teddlie and Tashakkori (2003) mentioned, a mixed research design consisting of both quantitative and qualitative approaches can yield richer results as the former can provide wider data while the latter can give deeper ones. Regarding the types of mixed research, Morse (2003) argued that, based on "whichever is dominant"(addressed in upper case), "simultaneous designs"(marked as +), and " sequential designs" (marked as →), there are eight types of mixed research, including QUAL+qual, QUAN+quan, QUAL+quan, QUAN+qual, QUAL→qual, QUAN →quan, QUAL→quan, QUAN→qual. According to the purposes of this research, the research belongs to QUAL+quan. That is, while it comprises quantitative and qualitative approaches, the qualitative approach is the dominant one[5]. The reasons for this research design include: 1) The quantitative section was aimed to generally grasp the preliminary picture of Taiwanese three-year senior high schools students' use of after-school time and the effect size of cultural capital; 2) the qualitative

[5] Even though the findings of the quantitative section were shown ahead of those of the qualitative section, they were conducted simultaneously.

section was not only dedicated to the understanding of Taiwanese three-year senior high school students' use of after-school time, it also focused on their use of in-school time. The latter was absent in the quantitative section since the dataset. The Taiwan Education Panel Survey (TEPS), which was utilized in the quantitative section, does not collect the data on students' use of in-school time; 3) the qualitative section was dominant because while discussing how cultural capital influences students' use of time, the phenomena that cannot be accounted for by cultural capital were also addressed.

The connections between the two methodological approaches are discussed explicitly as follows:

1. The quantitative research and qualitative research both dealt with the same issues regarding how gender/social class influences students' academic performance via cultural capital (i.e., parents' disciplinary styles, students' use of time and the opportunity of going to cram school).

2. Since TEPS did not address how three-year senior high school students use their in-school time but only after-school time, the quantitative research was designed to analyze how these students use their time after school. Hence, the qualitative research was aimed to choose a particular class to understand how three-year senior high school students use their time in school as well as after school.

3. Even though the quantitative section can statistically grasp the relationships among the variables, such as social class, gender, use of time, the opportunity of going to cram school and academic performance, some subtle interactions may only be captured by qualitative research. For instance, as shown earlier, students may adopt alternative or contradictory practices during teacher-led activities. Why and how does this kind of use of time happen? Is it related to social origins, the opportunity of going to cram school or academic performance? The subtle interactions were answered in the qualitative section.

VII. Methods

More details of the specific research methods to be employed will be discussed in this section.

1. Quantitative Research

In the quantitative part of this study, I answered the following main research questions:

- Do students' social backgrounds influence their cultural capital?
- To what extent does cultural capital influence academic performance?

1.1 Research Framework

In order to unravel the black box in terms of how gender/social class influences students' academic performance (referred to as "Comprehensive Analytical Ability" in the dataset adopted), this study attempted to determine the possible mediated variables between gender/social class and academic performance. According to Tabachnick and Fidell (2007), a "mediated variable" (or mediator) is considered as a middle variable (indirect effect) that "represents at least part of the chain of events leading to changes in the dependant variable" (p. 159). Based on the literature review, and after considering the purposes of the study, this study uses "cultural capital" as a mediated variable, which consists of "Parents' disciplinary styles", "Use of after-school time" and "Total number of subjects acquired in cram schools", to examine how gender/social class influences academic performance via cultural capital. The research framework of the quantitative research is as follows:

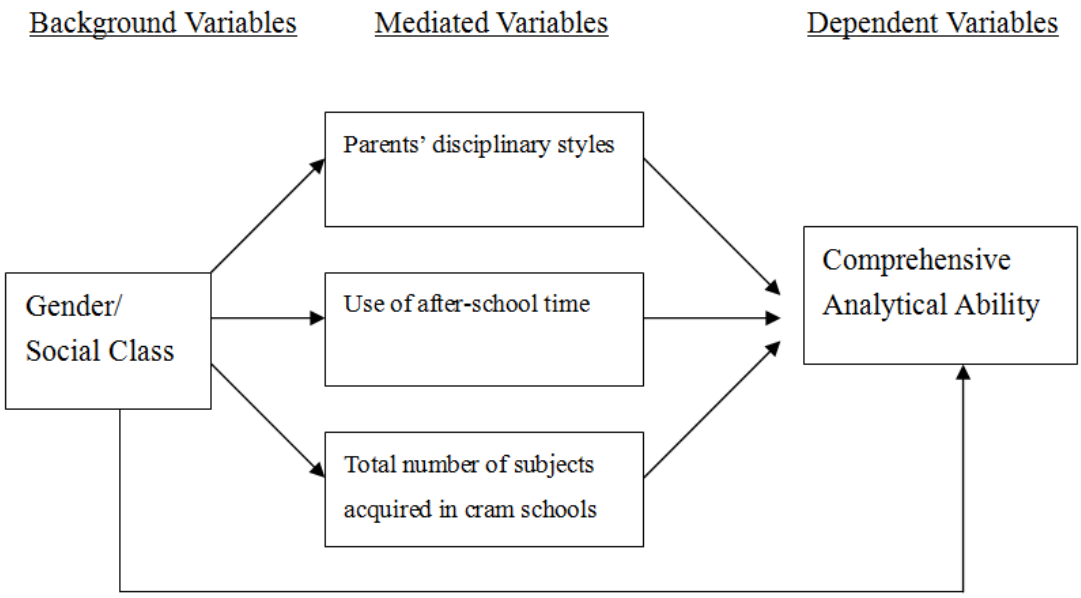


Figure 4 Research framework

1.2 Research Hypotheses

· Students' backgrounds (i.e., gender and social class) have significant effects on students' Comprehensive Analytical Ability.

· "Parents' disciplinary styles", "Use of after-school time", and "Total number of subjects acquired in cram schools" have significant effects on students' Comprehensive Analytical Ability.

· Students' backgrounds (i.e., gender and social class) influence students' Comprehensive Analytical Ability via the mediated variables, "Parents' disciplinary styles", "Use of after-school time", and "Total number of subjects acquired in cram schools."

1.3 Dataset for the Analysis: TEPS

The Taiwan Education Panel Survey (TEPS), built by the cooperation of the Ministry of Education, Academia Sinica, National Science Council, and National Academy for Educational Research, is a national longitudinal survey in Taiwan. Launched from 2001 to 2007 with four waves of survey, the corporations strived to build a representative longitudinal dataset in the field of education. The questionnaires distributed in TEPS were self-administered by junior high school students, senior high school students, vocational high school students, and five-year junior college students.

Furthermore, the scope of the dataset extended to some major factors that may influence students' learning experiences in terms of parents, teachers, and schools. TEPS has the following traits: 1) collecting the data by questionnaires and focusing on the possible influences of social aspects (i.e., family and society) on students; 2) providing a multifaceted, longitudinal dataset; 3) the scope of data consists of three levels, including individual, class, and school; 4) the dataset, as a valuable asset in Taiwan, is open to all of the researchers.

With regard to the tools for data collection, the committee of TEPS consulted the relevant educational studies, experts, as well as National Educational Longitudinal Study (NELS) from 1988 to 1996 in US. Specifically, the content of the questionnaires distributed to students ranged from all kinds of opportunities that were

provided by their schools, families, communities, societies, and organizations to time and efforts students devoted to their studying, as well as some information regarding their self-expectations, behavior problems, healthy problems, and cram school learning, etc. TEPS also took into account the issue of the representative of their research samples, so they drew the data from urban, suburban, and rural areas in Taiwan.

This dataset has been frequently utilized in the field of education in Taiwan. Of these studies, some research was dedicated to the issues of social class and cultural capital (Chen, 2004; Chen, 2008; Chiang, 2011; Lin & Huang, 2008). It demonstrated that the TEPS dataset is quite appropriate for dealing with the topics on the relationship between social class and cultural capital. In this regard, I intended to adopt the TEPS dataset for analysis in the quantitative section.

1.4 Research Samples

The research samples for the quantitative section were drawn from the fourth wave of the survey in 2007[6], which was targeted at three-year students of senior high schools, vocational high schools, and five-year junior colleges. This study focused on three-year senior high school students. The total population of three-year senior high

[6] In the field of education in Taiwan, there was no other available large-scale national survey after 2007.

school students in the fourth wave was 10,666. This population consisted of public and private school students from rural, suburban, and urban areas in Taiwan, who majored in Natural Science or Social Science[7]. Rather than selecting all of the samples, this study emphasized the students whose major was Social Science from public schools in the urban areas.[8] The final number of research samples was 661. The numbers of males and females are 201 (30.4 %) and 460 (69.6 %), respectively. The composition of their fathers' educational levels is as follows: 74 graduated from Graduate School (11.2 %), 156 from University (23.6 %), 125 from Junior College (18.9 %), 62 from Senior High School (9.4 %), 123 from Vocation High School (18.6 %), and 121 from Junior High School or below (18.3 %). The composition of their mother's educational levels is: 26 graduated from Graduate School (3.9 %), 115 from University (17.4 %), 148 from Junior College (22.4 %), 58 from Senior High School (8.8 %), 208 from Vocation High School (31.5 %), and 106 from Junior High School or below (16 %).

Regarding their father's occupations, 45 belong to Politician, High Administrator, Supervisor, Executive, Manager (6.8 %), 116 belong to Supreme Professional[9] (17.5

[7] In Taiwan, senior school students have to choose to either major in Natural Science or Social Science in the second year of the study.

[8] The reason for choosing this category is that in qualitative research I also chose a class of a public three-year senior high school in an urban area. The students also majored in Social Science. With this research design, I was able to maximize the possible connections/dialogues between the quantitative and qualitative sections.

[9] "Supreme Professional" includes lawyer, doctor, accountant, engineer, and architect. "Regular Professional" means other professional works that require certificates or diplomas.

%), 38 belong to Regular Professional (5.7 %), 31 belong to Special Education, Kindergarten, Primary and Secondary Education Teacher (4.7 %), 116 belong to Technician/ Professional Assistants (17.5 %), 38 belong to Clerks (5.7 %), 156 belong to Service Personnel/Sales (23.6 %), 96 belong to Skilled Manual Workers, Mechanical Operators and Packers (14.5 %), 11 belong to Farmers, Fishermen, Agriculture Workers (1.7 %), and 14 belong to Unskilled Manual Workers (2.1 %). In terms of their mother's occupations, 8 belong to Politician, High Administrator, Supervisor, Executive, Manager (1.2 %), 52 belong to Supreme Professional (7.9 %), 41 belong to Regular Professional (6.2 %), 84 belong to Special Education, Kindergarten, Primary and Secondary Education Teacher (12.7 %), 45 belong to Technician/ Professional Assistants (6.8 %), 170 belong to Clerks (25.7 %), 152 belong to Service Personnel/Sales (23 %), 59 belong to Skilled Manual Workers, Mechanical Operators and Packers (8.9 %), 9 belong to Farmers, Fishermen, Agriculture Workers (1.4 %), and 41 belong to Unskilled Manual Workers (6.2 %).

1.6 Variables

Based on the results of the literature review, the quantitative research used Gender, Fathers' and Mothers' Educational Levels, Fathers' and Mothers' Occupations as background variables, "cultural capital" as mediated variable, and Comprehensive

Analytical Ability as dependent variable. In what follows, I will discuss the indicators for each variable, and the results of factor analysis.

1.6.1 Background variables

1.6.1.1 Gender

The variable of "Gender" was transformed into dummy variables in order to be introduced in the regression models. Males were coded as 1 and females as 0 (the group of females serves as the reference group). The numbers of males and females are 201 and 460, respectively[10].

1.6.1.2 Social Class

Regarding the evolution of the concept of social class, Marx (1976) defined the concept of social class as "capitalist" and "labor." The dichotomy of the concept of social class, however, no longer corresponds to the transformation of the labor structure in the recent industrial world as the proletariat has considerably decreased while the number of middle-level job positions has increased (i.e., professionals and managers) (Dahrendorf, 1959). More importantly, the group of middle-class people between capitalists and labors appears to have more educational training and power,

[10] In general, the number of female students in Social Science is higher than their male counterparts in Taiwan. The research samples reflect the similar phenomenon.

and obtains better salaries and working environments, enabling them to stick to capitalists (Poulantzas, 1979).

In addition, the previous literature dealing with the issue of social class roughly divides the variable of social class into two levels, middle class and working class. However, recent discussion of middle class has moved from "middle class" to "middle classes," reflecting the fact that middle-class group is no longer homogenous (Anyon, 1980; Butler, 1995; Chiang, 2002; Devine, 2005; Hsu, 2000; Vincent & Ball, 2006). In line with these studies, this study divided middle class into two levels, upper middle-class and lower middle-class, in order to illuminate any subtle dissimilarities among classes. Hence, there are three levels of social class in the study: upper middle class, lower middle class, and working class[11].

In addition, by revisiting the relationship between the sociology of work and the sociology of class, Atkinson (2009) pointed out that there has been a "cultural turn" emerging from class research recently. That is, as Atkinson asserted, "cultural differences, media representations and socialization patterns, and ultimately the conceptual toolkit of Pierre Bourdieu, are the bread and butter of these researchers of

[11] In the field of education in Taiwan, especially for the studies dealing with the issues of social class (Chen, 2008; Hsieh, 2003; Hsu, 2000; Lin & Chang, 2008; Su, 2008), the dominant way to define the concept of social class is quite "western" (i.e., upper class, middle class, and working class), and this phenomenon is still very prevalent in Taiwan. Of these studies, some further drew attention to capture the differences within middle classes (e.g., Chen, 2008), and some even divided the concept of middle class into "upper middle class" and "lower middle class" (e.g., Su, 2008). In this vein, I also used the western categories of social class in my study, and paid attention to the distinctions between middle classes in terms of upper middle class and lower middle class.

class, not workplace authority, control or industrial conflict" (p. 897). Instead of merely relying on the characteristics of occupations to define the key class relations, Atkinson argued that, based on Bourdieu's concepts, cultural patterns in terms of possession of various types of capital, habitus, set of dispositions, and conditions of existence, should be considered as well as one's class is not determined by one's occupation alone. Hence, my study also considered this cultural aspect by using "Educational Level", as a form of cultural capital (institutionalized capital), as one of the criteria to determine the class levels of my research samples/participants. In addition, I also used the concepts of embodied cultural capital and objectified cultural capital to address any possible class differences in my study.

To sum up, regarding the criteria for classifying the levels of social class, fathers' and mothers' educational levels and occupations were used (based on whichever is highest). According to TEPS, the educational levels in the dataset are categorized into six levels, which include 1) junior high school or below, 2) vocational high school, 3) senior high school, 4) junior college, 5) university, and 6) graduate school. In terms of occupation, TEPS uses 10 categories of vocation in the dataset: 1. Politician, High Administrator, Supervisor, Executive, Manager; 2. Supreme Professional; 3. Regular Professional; 4. Special Education, Kindergarten, Primary and Secondary Education Teacher; 5. Technician/ Professional Assistants; 6. Clerk; 7. Service Personnel/Sales;

8. Skilled Manual Workers, Mechanical Operators and Packers; 9. Farmers, Fishermen, Agriculture Workers; 10. Unskilled Manual Workers.

Subjects belonging to politician, high administrator, supervisor, executive, manager, supreme professional, regular professional, special education, kindergarten, primary and secondary education teacher, and university or graduate school are upper middle class. People falling into the vocation of technician/professional assistants, clerk, service personnel/sales and junior college, senior high school or vocational high school are viewed as lower middle class. Working class comprises skilled manual workers, mechanical operators and packers, farmers, fishermen, agriculture workers, unskilled manual workers and junior high school or below. The details are also available in Appendix A.

Regarding the coding for parents' occupations, the category of Politicians, High Administrative, High Supervisory, Executive, Managerial is labeled as 10, Supreme Professional as 9, Regular Professional as 8, Special education, Kindergarten, Primary and Secondary Education Teacher as 7, Technician/ professional Assistants as 6, Clerks as 5, Service personnel/Sales as 4, Skilled manual workers, Mechanical operators and Packers as 3, Farmers, Fishermen, Agriculture workers as 2, Unskilled manual workers as 1. With regard to the coding for levels of education, graduate school is labeled as 6, university as 5, junior college as 4, senior high school 3,

vocational high school as 2, junior high school or below as 1. As to the coding for social class, upper middle class is labeled as 3, lower middle class as 2, working class as 1.

Based on the criteria and coding systems mentioned above, the exact numbers of upper middle class, lower middle class, and working class students in the sample are 230, 310 and 121, respectively.

1.6.2 Mediated Variables

With respect to the mediated variables, the items in the questionnaires in the fourth wave of survey in TEPS, which are related to cultural capital and most connected to the research purposes, were selected, and the scores were also calculated, including “Father tells me to do things on schedule (Yes = 1, No = 0)”, “Mother tells me to do things on schedule (Yes = 1, No = 0)”, “Self-studying after school (Less than 1hour = 1, 1-2 hour(s) = 2, 2-4 hours = 3, 4-6 hours = 4, Over 6 hours = 5)”, “Making plans for reviewing what I learned in school (Yes = 1, No = 0)”, “Playing video games per week (None = 0, Below 1-5 hour(s) =1, 5-10 hours = 2, 10-15 hours = 3, 15-20 hours = 4, 20 hours = 5 (Scores interpreted conversely))”, “Online Chatting per week (None = 0, Below 1-5 hour(s) =1, 5-10 hours = 2, 10-15 hours = 3, 15-20 hours = 4,

20 hours = 5 (Scores interpreted conversely))", "Cram School: Math (Yes = 1, No = 0)", "Cram School: English (Yes = 1, No = 0)", and "Cram School: Chinese/History/Geography[12] (Yes = 1, No = 0)". Afterwards, the technique of factor analysis was applied to reveal the associations among the items.

After selecting the relevant items related to the concept of cultural capital, factor analysis was used. The first step of doing factor analysis is to conduct a test of Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) in order to confirm that the items selected are appropriate for factor analysis. The results of KMO show that the partial correlation among the variables is 0.618 (higher than 0.6), indicating the appropriateness for factor analysis. In addition, according to the results of Bartlett's test of Sphericity, the value of Chi-Square is significant ($\chi^2 = 501.594$***, $p < .001$). It also indicates that the items selected are appropriate for factor analysis. In the process of factor analysis, the methods of "Principal Component Analysis" and "Varimax" were utilized to find the common factors (less than the original number of the items) among the items.

According to the results of factor analysis (Appendix B), three factors were

[12] The key subjects for Social Science major students include Math, English, Chinese, History, Geography and Citizenship Education. But, in TEPS, the data only comprised five subjects, Math, English, Chinese, History and Geography, and the last three were combined together as a item. The reason that it did not include Citizenship Education as a subject in a cram school is quite understandable since although the subject of Citizenship Education is a part of the test for College Entrance, compared with other subjects, it never plays a key role in the test for College Entrance. Going to cram school for the subject of Citizenship Education is rare in Taiwan. The study, therefore, used the five subjects to represent the subjects acquired in cram schools.

extracted (as initial eigenvalue is higher than 1). These three factors together can explain the original items by 51.677%. The first factor was named as “use of after-school time”, including “Self-studying after school”, “Making plans for reviewing what I learned in school”, “Playing video games per week” and “Online Chatting per week.” This factor served as a variable representing the embodied cultural capital that a student acquired and internalized at home. The second factor was named as “parents’ disciplinary styles”, including “Father tells me to do things on schedule” and “Mother tells me to do things on schedule.” The second factor was representative of the intergenerational transmission of the embodied cultural capital in daily life. The third factor was named “Total number of subjects acquired in cram schools”, including “Cram School: Math”, “Cram School: English”, and “Cram School: Chinese/History/Geography.” It represented the amount of objectified cultural capital that a student acquires from his/her parents.

Taken together, the mediated variables in the quantitative section comprise “use of after-school time”, “parents’ disciplinary styles”, and “Total number of subjects acquired in cram schools.”

1.6.3 Dependent Variable

With regard to the indictors of the dependent variable, students’ academic

performance, the scores on the test of "Comprehensive Analytical Ability" designed by TEPS were used. The purpose of the test of Comprehensive Analytical Ability was to examine students' ability to solve real problems. In other words, it is not a traditional achievement test. The test of Comprehensive Analytical Ability comprises 27 questions of Reasoning, 10 questions of Science, 20 questions of Math, and 14 questions of Verbal. The total questions of the test are 71. With regard to the calculation of scores, instead of counting how many questions a given student answers correctly, the test design panel, based on Item Response Theory, transformed the total of each student's correct answers into estimated IRT scores since the latter is more precise than the former in measuring a student's real ability (Taiwan Education Panel Survey, 2011). Hence, this study used the estimated IRT scores for analysis.

1.7 Data Analysis:

This research utilized multi-regression (particularly hierarchical regression) to analyze the extent to which the variables (i.e., gender, social class, use of after-school time, parents' disciplinary styles, and total number of subjects acquired in cram schools) influence students' academic performance, namely, Comprehensive Analytical Ability. There are five models in the study:

Model 1: AP = f (Gender)

Model 2: AP = f (Gender, Social Class)

Model 3: AP = f (Gender, Social Class, Disciplinary Styles)

Model 4: AP = f (Gender, Social Class, Disciplinary Styles, Use of After-School Time)

Model 5: AP = f (Gender, Social Class, Disciplinary Styles, Use of After-School Time, Number of Subjects)

where AP refers to academic performance, and was tested as continuous variable. Model 1, as a basic model, examined the influence of "Gender." The second model added the variable of "Social Class." Model 3 introduced the variable of "Disciplinary Styles" to the formula. The reason for introducing "Disciplinary Styles" rather than "Use of After-School time" or "Number of Subjects" is that parents' disciplinary styles would influence both students' use of after-school time and the total number of subjects acquired in cram schools. Once it has been controlled, it would be easier to examine the effect sizes of the rest of the variables. Model 4 was designed to examine the effects of "Use of After-School Time." In the Model 5, Number of Subjects was introduced lastly since one of the purposes in the study, after controlling for the proposed variables, was to examine the extent to which the opportunity of going to cram schools would influence a student's academic performance. In addition, from the results of Model 5, it also provided the total effect size of all independent variables in

terms of Gender, Social Class, Disciplinary Styles, Use of After-School Time, and Number of Subjects on AP.

2. Qualitative Research

Along with the quantitative research, I simultaneously adopted qualitative research methods to collect data in order to answer the following research questions:

- How do students spend time, both in and after school?
- How do students from different social classes use their time in and after school?
- What are the relationships among parents' disciplinary styles, attendance at cram school, students' use of time and academic performance?
- What are the possible explanations for the achievement of middle-class students with low performance and working-class students with high performance?

The research site, research participants, data collection, data organization and data analysis are discussed below.

2.1 Research Site

I selected Taiwanese three-year senior high school students because this group of students, in general, is more likely to bear the most pressure due to the upcoming Test for College Entrance. They are expected to "study hard for the upcoming test." Yet, is it really the case? To analyze this more deeply, I chose a senior high school in New

Taipei City in Taiwan as the main research site. The Percentile Rank (PR) of the school selected among the senior high schools in Taipei is around 70%. The study did not select schools whose PR was higher than 90% or lower than 50% since these two types of schools are too selective or too unselective when compared to PR 70%. In other words, in the highly selective or less selective schools, the variance of students' academic performance would be too low, but for averagely selective schools students' academic performance may show a tendency of Normal Distribution. Conducting my research at an averagely selective school allowed me to see the most variability among students.

After contacting the director of academic affairs and getting permission, I was introduced to the homeroom teacher of "DASH Class"[13], Shelly, who allowed me to enter the class to recruit participants. I introduced myself to the students and explained the process and details of my study. Finally, 32 students agreed to participate in the study (the samples of consent letters can be found in Appendix C and D).

It is worth noting that after my first meeting with the students, the homeroom teacher enthusiastically proposed that she could give me the students' records where I could find students' backgrounds as well as academic performance. Yet, I told the

[13] I used the name "DASH Class" to represent the class I studied because when I first met the students, there was a countdown to the test for College Entrance (Final Dash: 152 days left), written on the blackboard. It was easy to see how much pressure the students were facing.

teacher that I would request the information after completing the first round of student interviews. I chose this method for two reasons: 1) To avoid any possible biases toward the students before conducting the interviews, and 2) To get to know interviewees during the interviews, which was a very important step for building a relationship of mutual trust with research participants.

2.2 Research Participants

DASH Class consisted of 40 students. As mentioned previously, 32 students volunteered to take part in the study. The details of their names (for which I have used pseudonyms), genders and social backgrounds are shown in Appendix E[14]. The female students' names are underlined.

2.3 Data Collection

I used formal interviews to collect the required data. The interview process allows researchers to understand participants' beliefs, judgments, attitudes and values (Langness & Frank, 1981). There are three common forms of interviews: structured interview, semi-structured interview, and unstructured interview (Pan, 2003). I primarily used semi-structured interviews, following the interview guideline (shown

[14] For the criteria for determining their levels of social class, please refer to Appendix A

in Appendix F). Specifically, the first round of the interview focused on students' use of time and peer interaction while the second round drew attention on their family lives. However, during the process of interviewing, flexibility was also important, namely, adapting to the real situations of the participants and asking some follow-up questions based on their responses in order to obtain much deeper information. Interviews were recorded with the permissions of the participants, and all of the interviews were transcribed for future analysis. I conducted two rounds of interviews in total with each participant.

It is also important to clarify another point related to the data collection process, namely the reason that I did not utilize participant observation. This decision was made because both the director of academic affairs and homeroom teacher were afraid that my appearance in the class would cause too much of a disruption to students' studying. This group of three-year senior high school students is confronting one of the most important challenges during their life-the test for College Entrance[15]. In order not to interfere with their learning or cause any other possible troubles to the director and homeroom teacher, such as pressure from parents, I chose to rely solely on interviews, which was more acceptable for the director and teacher.

[15] Students can take the test for College Entrance twice. One session was in late January 2013, and the other was in early July 2013. I began data collection in September 2012, so I finished the first round of interviews in mid-January, right before the first test session, in order to understand how students used their time in and after school. After they took the test, the second round of interview began, focusing on their family lives.

Moreover, to minimize the possibility of disruption, we came to consensus on the main interview guidelines: 1) interviewing one student per day, 2) all of the interviews were administered during the lunch break (approximately 1 hour), and 3) no interviews were conducted during the informal School-wide Examinations. Following the rules, each student was interviewed twice. The first round took place from October to December 2012, and the second round occurred from January to March 2013.

The negotiation with my gatekeepers was an extremely valuable experience for me, as I learned how to adjust my research according to the concerns of the participants. Not to overly disturb the natural operation of the research site/participants is paramount for qualitative research to me. Further, through the process of communications, negotiations, and compromises, researcher and research participants have the opportunity to get know each other well, which can leads to a relationship of mutual trust.

2.4 Data Organization and Data Analysis

The purpose of data organization is to systematically organize the transcripts of the interviews in order to reveal the meanings of the original data. Hence, I typed and saved the transcripts on my personal computer, and labeled each transcript with date

and the anonymized name of the interviewee. Furthermore, data organization and data analysis cannot be separated in a qualitative research, but should be conducted simultaneously (Chen, 2002). Along those same lines, while I was collecting the required data, I also started to analyze the field data in terms of the process of coding, integrating, conceptualizing and making temporary conclusions.

The coding technique is worth noting because it is not only the first step to guarantee the quality of the data, but also determines the meaning of the data (Pan, 2003). Coding plays an instrumental role in the process of data analysis. Strauss and Corbin (1990) argue that coding is the process of dismantling and conceptualizing the original data, and then reconstructing the concepts from the data in a new way. In other words, the main purpose of coding is to figure out the possible contexts and frameworks from the unsorted data and to reorganize the data in order to generate new meanings. Specifically, the first step of coding is "preliminary readings," which refers to reviewing the data repeatedly and looking for the significant data carefully. The second step is to set up relevant codes and then create subcategories/categories in order to classify the data (Bogdan & Biklen, 2003; Strauss & Corbin, 1990). In this regard, through the continuous process of coding, researchers are able to figure out the similarities and dissimilarities among codes and then create possible subcategories/categories for future analysis as well as come up with some possible

conclusions.

With regard to the process of coding (i.e., codes and subcategories/categories) in my study, I used the episodes from the interviews with Peng and Hang for demonstration (Table 1). "File Name" indicates "Gender, Date and Name." For instance, "F20121207Peng" refers to "F (Female) (M for Male) (Gender), 20121207 (Date), Peng (Name)." The codes in these two episodes include "Chinese and Citizenship teachers are very strict in class", "Does not dare to do his/her own things in class", "English, Math, History, and Geography teachers are not strict in class", "Dare to do his/her own things in class." These codes can be further put together to generate some subcategories, such as "Teachers are strict in class", "Teachers are not strict in class", "Students can do their own things in class" and "Students cannot do their own things in class." Finally, these subcategories can further generate one more abstract category, "The relationship between teachers' teaching style (strict or not strict) and students' responses (doing their own things or not) in class."

Table 1 Examples for the way of coding

File Name	Episodes of Interviews	Codes	Subcategories	Categories
F20121207Peng	Peng said that some teachers in class are very strict, like Chinese and Citizenship teachers. So, in their classes, we do not dare to do our own things. If you get caught, you will be punished. But the other teachers, I mean English, Math, History and Geography teachers, they never care what we do in class. If you have a chance to come to our class, you will see so many students do their own things, like sleeping or using cell phone, etc.	◎Chinese and Citizenship teachers are very strict in class ◎Does not dare to do his/her own things in class ◎English, Math, History, and Geography teachers are not strict in class ◎Dare to do his/her own things in class	◎Teachers are strict in class ◎Teachers are not strict in class ◎Students can do their own things in class ◎Students cannot do their own things in class	The relationship between teachers' teaching style (strict or not strict) and students' responses (doing their own things or not) in class
M20121204Hang	Hang said we have very strict teachers, like Citizenship teacher and Chinese teacher. We are unable to do our own things. The rest of the teachers are not so strict. I am talking about English, Math, History and Geography teachers. They do not even care if we pay attention to their classes. I would say half of the students are not listening to them in class and doing their own things.	◎Chinese and Citizenship teachers are very strict in class ◎Does not dare to do his/her own things in class ◎English, Math, History, and Geography teachers are not strict in class ◎Dare to do his/her own things in class		

3. Timeline

This study was conducted from September 2012 to June 2013, which comprised an entire school year. The first seven months were dedicated to data collection. The last three months were used to organize, write and revise the dissertation (the specific timeline is presented in Appendix G).

VIII. Findings of Quantitative Research

The purpose of this section is to quantitatively analyze how Taiwanese public senior high school students who major in Social Science in the urban areas use their time (particularly, after-school time) by using TEPS dataset. This section comprises three parts. First, I analyze the effects of social backgrounds (social class and gender) on students' use of time (including use of after-school time, total number of subjects acquired in cram schools, and parents' disciplinary styles). Then, I discuss the effects of social backgrounds (social class and gender) on students' academic performance. Finally, the total effect size of all proposed independent variables on students' academic performance is addressed.

1. The Effects of Social Backgrounds on Students' Use of Time

1.1 The Relationship between Students' Social Backgrounds and Use of

After-School Time

With regard to after-school time, as mentioned earlier, four indicators were used to examine this variable in terms of "Self-studying after school", "Making plans for reviewing what I learned in school", "Playing video games per week" and "Online Chatting per week." Before analyzing the effects of students' social backgrounds (i.e., social class and gender) on students' use of after-school time, the interaction effects of social class and gender were tested. According to the results in Table 2, there are no statistically significant interaction effects (p=.201＞.05). In this regard, I was able to further analyze the effect of social class and that of gender separately.

Table 2 The Interaction Effect of Social Class and Gender on Students' use of After-School Time

Dependent Variable: Use of after-school time			
Source	df	F	*P*
Social Class	2	9.102	.000
Gender	1	38.324	.000
Social Class * Gender	2	1.609	.201

1.1.1 Gender

Based on the results (Table 2), gender had statistically significant effect on students' use of after-school time (p=.000＜.05). Furthermore, the results of the T-test showed the same (p=.000＜.05) (Table 3). Specifically, female students tended to

spend more time on self-studying and making plans for studying than the male students.

Table 3 The Effects of Gender on Students' use of After-School Time

	F	*P*	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Students' use of After-School Time	20.957	.000	-6.627	659	.000	-1.28099	.19329

1.1.2 Social Class

Students from different social classes spent their time differently (p=.000＜.05) (Table2). According to the results of post hoc (Table 4), middle-class students spent more time on studying than their lower-middle and working-class counterparts (p=.015＜.05; p=.000＜.05, respectively). No statistically significant difference existed between lower-middle class students and working-class students (p=.102 ＞.05).

Table 4 Post Hoc: The effect of Social Class on Students' use of After-School Time

Students' use of After-School Time Scheffe					Post Hoc
(I)Social Class	(J) Social Class	Mean Difference (I-J)	Std. Error	*P*	Upper Class (3) > Lower Middle Class (2); Upper Class (3) > Working Class (1)
1	2	-.5192	.24243	.102	
	3	-1.0908*	.25399	.000	

Table 4 Post Hoc: The effect of Social Class on Students' use of After-School Time (contd.)

2	1	.5192	.24243	.102	
	3	-.5717*	.19682	.015	
3	1	1.0908*	.25399	.000	
	2	.5717*	.19682	.015	
*. The mean difference is significant at the 0.05 level.					

1.2 The relationship between students' social backgrounds and total number of subjects acquired in cram schools

The variable "total number of subjects acquired in cram schools" was used to represent how many subjects a three-year senior high school student had in the evening cram schools. Since the study was aimed at the Social Science major students, the main subjects were Chinese, English, Math, History, Geography and Citizenship Education (not included). Likewise, before the analysis of the effects of social class and gender, the interaction effect was examined first. According to the results in Table 5, there was no interaction effect on students' total numbers of subjects acquired in cram schools ($p=.073 > .05$), which means that parents from different social classes gave the same opportunities of going to cram school to their children regardless of their children's sex. In what follows, I further discussed the separate effects of social class and gender on students' total numbers of subjects acquired in cram schools.

Table 5 The Interaction Effect of Social Class and Gender on Students' Total Numbers of Subjects Acquired in Cram Schools

Dependent Variable: Total Number of Subjects Acquired in Cram Schools			
Source	df	F	*P*
Social Class	2	14.296	.000
Gender	1	.011	.916
Social Class * Gender	2	2.631	.073

1.2.1 Gender

Table 5 shows that there is no statistically significant effect of gender on students' total numbers of subjects acquired in cram schools (p=.916＞.05). It means that in the aspect of the opportunity of going to cram school, no significant difference between boys and girls was found.

1.2.2 Social Class

Students from different social origins acquired different amount of subjects in the cram schools (p=.000＜.05) (see Table 5). According to the results of post hoc (Table 6), the amount of subjects acquired in the cram schools of the upper-middle class and lower-middle class students were higher than that of the working-class students (p=.000＜.05；p=.002＜.05, respectively). And, the upper-middle class students were also higher than the lower-middle class students (p=.001＜.05). Taken together, the higher the social class to which a student belongs, the greater the

amount of subjects acquired in the cram school.

Table 6 Post Hoc: The Effects of Social Class on Students' Total Numbers of Subjects Acquired in Cram Schools

Total Numbers of Subjects Acquired in Cram Schools Scheffe					Post Hoc
(I)Social Class	(J)Social Class	Mean Difference (I-J)	Std. Error	*P*	Upper Class (3) > Lower Middle Class (2) Upper Class (3) > Working Class (1) Middle Class (2) > Working Class (1)
1	2	-.3991*	.11039	.002	
	3	-.7444*	.11565	.000	
2	1	.3991*	.11039	.002	
	3	-.3453*	.08962	.001	
3	1	.7444*	.11565	.000	
	2	.3453*	.08962	.001	
*. The mean difference is significant at the 0.05 level.					

1.3 Parents' Disciplinary Styles

With regard to the variable of "parents' disciplinary styles", the indictors include "Father tells me to do things on schedule" and "Mother tells me to do things on Schedule." According to Table 7, there is no interaction effect ($p=.406 > .05$).

Table 7 The Interaction Effect of Social Class and Gender on Parents' Disciplinary Styles

Dependent Variable: Parents' Disciplinary Styles			
Source	df	F	*P*
Social Class	2	.665	.514
Gender	1	2.982	.085
Social Class * Gender	2	.904	.406
a. R Squared = .012 (Adjusted R Squared = .005)			

1.3.1 Gender

According to Table 7, no statistically significant effect of gender on parents' disciplinary styles existed (p=.085＞.05). It means parents disciplined their children (specifically, doing things on schedule) similarly regardless of their sex.

1.3.2. Social Class

Students from different social classes showed no differences on parents' disciplinary styles (p=.514＞.05). This suggests that parents of different social classes have similar ways of disciplining their children in terms of doing things on schedule.

2. The Effects of Social Backgrounds on Students' Academic Performance

In the previous analysis, the effects of social class and gender on the mediated variables (e.g., use of after-school time, total number of subjects acquired in the cram schools and parents' disciplinary styles) have been discussed. I now analyze the effect of social backgrounds on students' academic performance. The scores on the test of

Comprehensive Analytical Ability in TEPS were adopted to represent academic performance. Likewise, I first discussed the interaction effect of social class and gender on students' academic performance. Based on Table 8, there is no statistically significant effect (p=.470＞.05). The individual effect of each factor is discussed below.

Table 8 The Interaction Effects of Social Class and Gender on Students' Academic Performance

Dependent Variable: Students' Academic Performance (Comprehensive Analytical Ability)			
Source	df	F	*P*
Social Class	2	9.725	.000
Gender	1	8.466	.004
Social Class * Gender	2	.756	.470
a. R Squared = .044 (Adjusted R Squared = .037)			

2.1 Gender

According to Table 8, the variable of gender had a significant effect on students' academic performance (p=.004＜.05). The Independent-Sample *t* test below (Table 9) showed that female students' academic performance were higher than their male counterparts.

Table 9 The Effects of Gender on Students' Academic Performance

	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Students' Academic Performance	2.339	.127	-3.212	659	.001	-.26275	.08180

2.2 Social Class

As shown in Table 8, there are statistically significant differences among students from different social classes (p=.000＜.05). According to the results of post hoc (Table 10), upper-middle class and lower-middle class students' academic performance were higher than their working-class counterparts (p=.000＜.05; p=.022＜.05, respectively). There was no significant difference between the upper-middle class and lower-middle class students (p=.058＞.05).

Table 10 The Effects of Social Class on Students' Academic Performance

Students' Academic Performance Scheffe					Post Hoc
(I)Social Class	(J)Social Class	Mean Difference (I-J)	Std. Error	*P*	Upper Class (3) > Working Class (1) Middle Class (2) > Working Class (1)
1	2	-.2840*	.10249	.022	
	3	-.4828*	.10737	.000	
2	1	.2840*	.10249	.022	
	3	-.1989	.08321	.058	

Table 10 The Effects of Social Class on Students' Academic Performance (contd.)

3	1	.4828*	.10737	.000	
	2	.1989	.08321	.058	
*. The mean difference is significant at the 0.05 level.					

3. The total effect size of all proposed independent variables on students' academic performance

Thus far, the effects of social class and gender on the mediated variables and dependent variable have been analyzed. The previous analyses with the technique of ANOVA and Independent-Sample *t* test helped to clarify the differences on the proposed variables among the students with various backgrounds. Yet, it did not show the extent to which the variables (social class, gender, and all of the mediated variables) could account for the variance of the dependent variable (students' academic performance). This section further examines the total effect size of all proposed independent variables on students' academic performance. Two parts constitute this section: 1) The correlation coefficients among the variables; 2) The individual/combined effect size(s) of the variable(s).

3.1 The Correlation Coefficients among the Variables

Regarding the correlation coefficients among all of the variables in the quantitative research (shown in Appendix H), gender has a statistically significant

positive correlation with students' use of after-school time, a negative correlation with parents' disciplinary styles, and a positive correlation students' academic performance. It indicates that female students spent more time on studying, parents asked female children to do things on schedule more than they asked male children, and female students' academic performance was better than their male counterparts.

With respect to social class, there were statistically significant positive correlations among social class, the total number of subjects acquired in cram schools, use of after-school time, and students' academic performance, which showed that the higher social class a student possesses, the higher the opportunity of going to cram school, more time spent on studying, and better academic performance.

As for the mediated variables, the total number of subjects acquired in cram schools had statistically significant positive correlations with use of after-school time and academic performance. Thus when a given student has more number of subjects in cram schools, s/he spends more time studying because s/he may have to find some extra time for studying and preparing for the homework from cram schools. It could also lead to better academic performance in school. It is worth noting that the use of after-school time also has a statistically significant positive correlation with academic performance. This suggests that when a student spends more time studying, his/her academic performance is enhanced. As for parents' disciplinary styles, there was only

a positive correlation with gender.

3.2 The Individual/Combined Effect Size(s) of the Variable(s)

I used hierarchical regression analysis to examine the extent to which the variables in terms of gender, social class, parents' disciplinary styles, use of after-school time, and the total number of subjects acquired in cram schools could predict students' academic performance on the test of Comprehensive Analytical Ability. To this end, as mentioned previously, I proposed five regression models.

In Model 1, the variable of "Gender" was a significant predictor of students' academic performance (β =-.124, p＜.001). The variance in students' academic performance can be accounted for 1.5%.

The variable of "Social Class" was added to Model 2, and it also added significantly to the model's predictive ability for students' academic performance by 2.7% (the total is 4.2%). In particular, upper-middle class and lower-middle class students' academic performance was higher than their working-class counterparts (β =.224, p＜.001; β =.140, p＜.01). Gender remained significant (β =-.111, p ＜.01).

In Model 3, the variable of "Parents' Disciplinary Styles" was introduced into the model, and the results showed that it was not a significant predictor. However, gender (β =-.108, p＜.01) and social class still remained significant (β =.222, p＜.001;

β =.138, p＜.01).

I added the variable of "Use of after-school time" into Model 4. The results indicated that students' use of after-school time is a significant predictor of academic performance (β =.210, p＜.001). The model's predictive ability for students' academic performance is 9.3%. It is worth noting that "Gender" became insignificant after the input of "Use of After-School Time", which indicated that "Gender" influenced students' academic performance via "Use of After-School Time." "Social Class" still remained significant (β =.184, p＜.001; β =.119, p＜.05), but the coefficients of β decreased. The decrease in the coefficients of β indicated that "Social Class" influenced students' academic performance via "Use of After-School Time."

In Model 5, "The Total Number of Subjects Acquired in Cram Schools" was introduced, and the results showed that it was a significant predictor (β =.169, p ＜.001). The model's predictive ability for academic performance increased to 12.3%. "Gender" still remained insignificant. As for "Social Class", the difference between lower-middle class and working-class students became insignificant, indicating that going to cram school served as an important mediated variable for social class.

Table 11 All Proposed Variables Regressed on Students' Academic Performance

	Model1		Model2		Model3		Model4		Model5	
Gender	*b*	*β*	*b*	*β*	*b*	*β*	*b*	*β*	*b*	*β*
Male	-.263	-.124***	-.234	-.111**	-.228	-.108**	-.132	-.063	-.130	-.062
Female	-	-	-	-	-	-	-	-	-	-
Social Class										
Upper-Middle Class			.458	.224***	.454	.222***	.375	.184***	.290	.142**
Lower-Middle Class			.273	.140**	.269	.138**	.231	.119*	.190	.097
Working class			-	-	-	-	-	-	-	-
Disciplinary Styles					-.025	-.011	-.022	-.010	-.027	-.012
Use of After-School Time							.196	.210***	.177	.190***
Number of Subjects									.331	.169***
R square	1.5%		4.2%		4.3%		9.3%		12.3%	
R square change	1.5%		2.7%		0.1%		5%		2.9%	

(* p<.05, **p<.01, *** p<.001)

Summary

In this section, I discussed the effects of socio-cultural factors on the students' cultural capital (parents' disciplinary styles, use of after-school time and the total number of subjects acquired in cram schools) as well as the effect sizes of cultural capital on students' academic performance. The empirical evidence shows that all of the research hypotheses have been confirmed, except for the variable of parents' disciplinary style. Specifically, social class and gender both have statistically

significant effects on the variables proposed. That is, if a given student comes from a higher social class background, the total number of subjects acquired in cram schools, self-studying time, and academic performance will be also higher. In addition, female students' self-studying time and academic performance are higher than their male counterparts.

As a whole, the variables of "total number of subjects acquired in cram schools" and "self-studying time" were the key predictors for the academic performance, as confirmed in the regression analyses. When the two variables were introduced into the model, the effect of social class decreased. This indicates that social class influenced students' academic performance via these two mediated variables.

It is worth noting that the variable of parents with different social classes shows no difference in disciplining their children. The possible explanation is that their children are all three-year senior high school students. Along with the approaching of the test for College Entrance, parents, regardless of social class, would all ask their children to study. This phenomenon was also captured in the qualitative research. Yet, even though parents all ask their children to study, their educational expectations are still different subtly. These subtle differences will be discussed in the qualitative research.

IX. Findings of Qualitative Research

The section discusses the findings of the qualitative research. First, I introduce the official school timetable of DASH class to primarily explain the students' school life. Then, the students' real use of in-school time (i.e., off-class time and class time) is addressed. Third, I discuss the students' use of after-school time. Fourth, I discuss the use of time of students from different social backgrounds, as well as its relation to academic performance. Lastly, I discuss how the upper-middle class, lower-middle class, and working-class parents' educational expectations as well as disciplinary styles influence their children's use of time, educational expectations, and academic performance.

1. Official School Timetable of DASH class

As a whole, the students have eight formal classes every Monday through Friday, as well as other off-class time, such as "Preparation Time", "Lunch Break / Nap time", "Dinner Time/ Nap time" and two "Self-Studying" classes (the official school timetable of DASH class was shown in Appendix I). The students must arrive at school before 7:30 am to avoid late attendance. However, they were requested by the homeroom teacher Shelly to arrive at school no later than 7:25 am. "Preparation Time" was designed for the students to study or prepare for studying. Yet, most of the

periods of preparation time were used for various tests. There were four regular classes from 8:10 am to 12:00 pm. The period of 12:00 pm to 1:00 pm was “Lunch Break / Nap time.” There were another four classes from 1:00 pm to 4:50 pm. After the formal class time, “Dinner time/ Nap time” started from 4:50 pm to 6:30 pm. However, the students were asked to return no later than 5:40 pm, and needed to take a short nap from 5:40 pm to 6:30 pm. 6:30 pm to 7:20 pm was the first self studying class, followed by the second self studying class from 7:30 pm to 9:00 pm. Students left the school at 9:00 pm.

Each week, students had seven Chinese classes, six Math classes, six English classes, five Geography classes, four Citizenship Education classes, one Technology class, one Home Economics class, two Physical Education classes, one Club Activities class, one Class Meeting, and one Art class. In sum, there were 40 classes each week. Yet, Club Activities and Class Meeting times were used for tests, since club activities were prohibited for the three-year senior high school students because of the approaching of the test for College Entrance.

2. Students’ real use of time

In general, students’ real use of time comprises “Use of In-School Time” and “Use of After-School Time.”

2.1 Use of In-School Time

In the forgoing analysis, the official school timetable of DASH Class was provided. I now discuss how the students used their in-school time, which can be further separated into two domains: “Off-Class Time” and “In-Class Time.”

2.1.1 Off-Class Time

“Off-Class Time”, literally, refers to the time without a teacher’s teaching. The students had several periods of off-class time, including Preparation-Time, a 10-minute break between classes, Lunch Break /Nap Time, Dinner Time/ Nap time, and Self-Studying Class. What students did during these periods of time included the following:

2.1.1.1 Preparation-Time

Most of the periods of Preparation Time were used for tests. For example, students had an English test every Wednesday. For the rest of the days, it depended on the arrangement of the homeroom teacher, as well as other subject teachers’ requests. As Sang explained, “*We usually have tests in the Preparation-Time. Our teacher, Shelly, asks us to have English tests every Wednesday. We have school meetings on every Tuesday morning. We do not have regular tests for Mondays, Thursdays and Fridays. It depends on the arrangement of the homeroom teacher and other teachers*.”

In addition to having tests, I asked students about what they would do if they do not have tests in the Preparation Time. I wanted to understand what kind of activities they preferred to take part in, when they had their own time. I found there were five types of activities.

Sleeping or Chatting

Some students regarded this period of time (30 minutes) as an important time for sleeping because it was difficult to get up so early every day. Others used the time to chat with their friends. They would not prepare for the upcoming tests on that day. For example, Fu said, "*If I have tests in the morning, I will try my best to get it done. If not, I always chat with my friends.* " Suan chose to catch up on sleep, saying, "*If there is not test in the morning, I will definitely use that time to sleep. Getting up so early every day is killing me. Of course, I never use this period of time to prepare for the upcoming tests on that day*."

Preparing for upcoming tests on that day

Many students made use of this period of time to prepare for the tests on that day. This did not mean that they had not prepared the night before. Instead, they wanted to review it quickly before the tests. Ting mentioned that, "*I will prepare for the tests on that day. Actually, I've already read it last night. I just wanted use some extra time to*

review it again." Liu also commented, "*No tests in the morning? I always read the subjects that we will have tests on…I did prepare for the tests yesterday. But, you just cannot be overprepared for the tests, right*?"

Reviewing what I have learned in school

Another way that students used the morning time was to review what they had learned in school. In other words, they did so in order to prepare for the test for College Entrance. Wim said, "*I will use the time to review what I want to read again. The test for College Entrance is around the corner. You can always find something to read*." Likewise, Mei told me, "*I will just read something important for the big test (The test for College Entrance*).

Doing the homework from cram schools

Some students told me that since they had private school in the evening, they had a great deal of homework. They needed to use this morning time to complete the homework for cram schools because they never had enough time for that. For example, Zu said, "*If I do not have tests in the preparation time, I will use the time to write the homework from my cram school. I have so much Math homework from cram school. It is like when the cram-school teacher finished a chapter or section, it would*

come along with so many exercises. I just need to squeeze some time for it. Of course, I would not be punished if I did not finish the homework. I just feel it would be a waste of money if I did not finish the assignments."

Doing the homework from school

For some students, the periods of preparation time were used to finish their school assignments to avoid some terrifying and embarrassing punishments. As Jieh told me, "*This period of time is extremely important for me because I have to get so many things done, like my school assignments, specifically. Otherwise, our homeroom teacher will give you some terrifying and embarrassing punishments, like wearing a big black trash bag and running through the hallways and shouting "I am a black-trash-bag superman", something like that.*" With regard to why the students did not complete their school assignments at home, they said they felt that homework was boring, and they preferred to come to school the next day and copy the homework from their classmates. Zon explained, "*Writing homework is extremely boring for me. I always write my homework the next day, just borrow someone else, and copy the answers. Not only me, so many students do the same thing*."

2.1.1.2 Ten-Minute Breaks between Classes

With respect to how the students used their 10-minute breaks, it was quite similar to how they used their preparation time. Some used the time for sleeping or chatting, whereas others made use of the time to prepare for the upcoming tests. "*I always get some rest during the breaks, like sleeping, chatting or walking around to refresh myself*," said Wen. "*For me, I would use the time to study if I have tests on that day or in my cram school. We have many times of ten-minute break. If I add them up, I am able to have some extra time for studying*," added Lice.

2.1.1.3 Lunch/Dinner Break/Nap Time

During the periods of the lunch/dinner break and nap time, most of the students used them to get more sleep. As Ping said, "*Sleeping is quite important for three-year senior high school students. I never use this time to do something else. I need a lot of sleep*." On the contrary, there were still some students who used the time for studying. Take Chou as an example, who said, "*I may not sleep during noon nap time if I have tests in the afternoon. I will prepare for them; otherwise, I would feel insecure. But, I would sleep in the last ten minutes before the period of noon nap time ends. Sleeping for ten minutes is better than not sleeping at all*."

2.1.1.4 Self-Studying Class

The students had two self-studying classes every Monday through Friday. In general, the students gave priority to completing their school assignments to avoid punishments. Afterwards, they used the time to prepare for the tests the next day, and then reviewed whatever they wanted. As Tzu mentioned, *"I usually write the school assignments in the first self-studying class. When I get it done, I will prepare for the tests and then study what I want*." Yang had a similar outlook, saying, "*In the first class, I will write the homework. I am so afraid of being punished. It is so embarrassing. After that, I always read the subjects that I will have tests on tomorrow, and then study by following my own reviewing plans*."

In addition, there were students who did not know what to read if there were no tests the next day or who did not want to study because they did not have their own plans for reviewing. For example, Min said, "*I will do the homework first, and prepare for tomorrow's tests. If there are no tests tomorrow, to be honest, I would not know what to read because I do not know how to make plans for reviewing. What I can do is follow what the school/teachers tells me. I know it is not a very good learning way, but I just cannot do anything about it. I cannot arrange my time very well*". Jieh had a different perspective: "*For me, I will absolutely finish the homework. I do not want to be punished. And then, I will prepare for the tests. Sometimes, we do*

not have tests tomorrow. If this is the case, I will not spend any time on studying."

2.1.2 In-Class Time

In the previous analysis, I discussed how students used their off-class time. It appeared that they had to strike a balance between doing what they wanted and complying with school and teacher requests, and then arranged the time accordingly. Generally speaking, during the off-class time, the students could relatively decide how to use the time by themselves without too much teacher intervention.

However, when it came to in-class time, students were expected to follow teacher requests and use their time according to teacher's arrangements. After all, the in-class time was the time for the so-called official, formal, and regular classes. If a student failed to comply with this rule of use of time in class, s/he was in violation of the school rules. My main research question was: Would all of the students follow this rule? The following section is devoted to answering this question.

2.1.2.1 The Path of the Formation of the Students' Interpretation of In-Class Time

Before discussing how the students used their in-class time, I wanted to clarify the factors that influenced their perspectives on the in-class time. The students were

found to have several common views of their in-class time, which could be characterized at least by four factors sequentially (Figure 5): 1) Teachers are strict or not strict; 2) follow, partly follow, or not follow the teachers; 3) knowledge-producing or not knowledge-producing; 4) on-subject or off-subject.

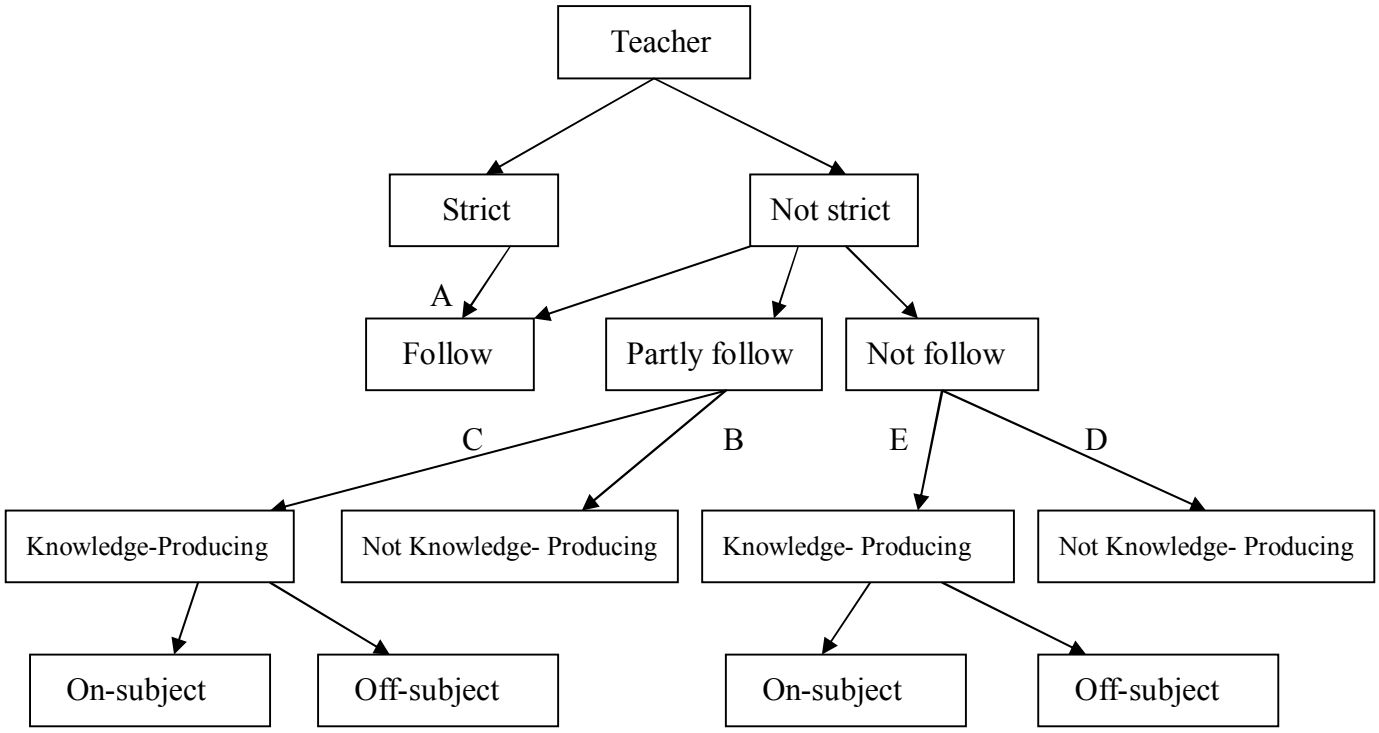


Figure 5 The path of the formation of the twelfth graders' interpretation of in-class time[16]

Teachers are strict or not strict

The first factor that influenced the students' interpretation of the in-class time was "Teachers are strict or not strict." Specifically, the students came up with different

[16] The learning types of A, B, C, D and E will be discussed later.

responses according to whether or not the teachers[17] were strict. In the students' eyes, Chinese and Citizenship Education teachers were strict. The Chinese teacher was the homeroom teacher, and she always asked questions and picked some students randomly to answer the questions during the class. The students needed to pay attention in her class. The students also thought that the Citizenship Education teacher was strict, as she made sure that students concentrated in her class at all times. She even walked around the classroom to attract students' attention.

On the contrary, Math, English, History, and Geography teachers were not strict in the students' eyes, as these teachers did not appear to care what the students did in class. Peng described the difference between the two types of teachers this way: "*Some teachers in class are very strict, like Chinese and Citizenship Education teachers. So, in their classes, we do not dare to do our own things. If you get caught, you will be punished. But the other teachers, I mean English, Math, History and Geography teachers, they never care what we do in class. If you have a chance to come to our class, you will see so many students do their own things, like sleeping or using cellphone, etc*." Hang expressed a similar view: "*We have very strict teachers, like the Citizenship Education teacher and Chinese teacher. We are unable to do our own things. The rest of the teachers are not so strict. I am talking about English, Math,*

[17] The analysis focused on the major subjects for this group of the Social-Science major students in terms of Chinese, English, Math, History, Geography, and Citizenship Education.

History and Geography teachers. They do not even care if we pay attention to their classes. I would say half of the students are not listening to them in class and doing their own things."

Follow , Partly follow or Not follow the teachers

When the students categorized the teachers as "strict" and "not strict", they came up with different strategies to respond. In the strict teachers' classes, they almost always followed the rhythms of the classes designed by the teachers (i.e., lectures, learning activities) without doing their own things. As mentioned previously, the strict teachers had their ways (e.g., asking questions, walking around the classroom or asking them to write down the notes) to attract the students' attention. Li mentioned, "*I always pay attention to the homeroom teacher's class (Chinese). You are unable to do your own things because she likes to ask questions in class*. Ting said, "The *Citizenship Education teacher likes to walk around the classroom, and she will ask us to write down what she writes on the blackboard. No one dares to do his/her own things in her class*."

As for the "not strict" teachers (English, Math, History, and Geography), the students were found to have three types of responses. The first type of response was "Still following the teachers." For some students, they still tended to follow the

arrangements of the teachers even if the teachers did not strictly request them to do so. They did so because they thought certain teachers taught very well or they were fond of certain subjects, and thus paid much attention to the classes. As Chen noted, "*It seems that we can do our own things in History because the teacher does not care what we do in class. But I never do my own things. I think this teacher teaches very well. For me, the content of History is so complex, and there are a lot of names and events to memorize. This teacher will help us organize everything. It is better to follow her than to read it on my own.*" Similarly, Tzeng said, "*In Math class, there are many people doing their own stuff. But, I am always concentrated on the class. I never sleep or prepare for other tests in Math class because the Math teacher is a very good teacher. That would be to disrespectful of him if I do that kind of things."* Huang also told me, "The *English teacher teaches very well. I always listen to her, and write down everything that she requests. Even anything she writes on the backboard, I will write it down as well*." Ping preferred Geography, commenting, "*I like the way that the Geography teacher teaches. She uses Power Point in class. I think it is a very good way to understand what she wants us to know as everything is shown on the screen. And, we do not have to waste the time waiting for the teacher to write on the blackboard*."

The second type of response was "Partly following the teachers." It meant that

some students did not totally follow the rhythms of the classes designed by the teacher. Instead, they were doing something on their own while listening to the teacher. Thus they were doing two kinds of things at the same time in class. This phenomenon also appeared in English, Math, History, and Geography classes. For example, Li said that, "*I will pay attention to the Math teacher's teaching, but not 100%. I will also do my own stuff at the same time. It is like I am listening to him, but I am also busy doing my own things*." Hang also mentioned this phenomenon: "*In History class, I feel like I am only using half of my concentration listening to her, and using the other half on my own things. I just think that I do not have to entirely listen to her class because it is History. You can memorize the content without teacher's teaching actually. So, I would not pay attention to her only if she requested.*" Mong told me that she would do something on her own in English because she always felt sleepy in class: "*The English teacher always teaches something which was already written on the textbooks. So, it made her class become a little boring. That is why I have to do something else to keep me awake. To be honest, she is not very good at teaching. The way she talks always makes me feel sleepy*." The same phenomenon also happened in Geography class. For Chi, the Geography teacher was frequently off-topic, so she chose to do other things that she felt were more meaningful: "The *Geography teacher talks too much nonsense in class, like her travelling experiences. It means nothing to me at all.*

So, I have to find something else to do when she is talking that kind of boring stuff. Otherwise, it would be a waste of time. When she starts talking something about Geography, I will then go back to her class."

The third type was "Not following the teachers." This type of student entirely ignored the ongoing classes, and did their own things in class instead. This phenomenon also happened in English, Math, History, and Geography classes. "*For me, I do not follow what the Math teacher asks us to do in class. He usually teaches something I already know, so it is not very helpful for me. I would rather spend the time on other things*," said Yang. Tzeng had a similar feeling about Geography, noting, "*I do not pay attention to every subject actually. Like Geography class, I never listen to the Geography teacher. Geography is very easy for me. I can handle it without teacher. I feel it is a waste of time listening to her class because she not only talks something unrelated to the class but also uses a lot of time to explain something which is very simple to me*." Jieh said he had trouble concentrating in English: "*English is always my weakness. I always get very low scores on English tests. I cannot understand what English teacher teaches in class so I never pay attention to her. I know it is a vicious cycle. I just cannot fix it*." Ney talked about her struggles in History class: "*I do not like History because there are so many things going on. I cannot memorize them all. For example, the chapter for this week is about religious.*

There are so many names and events. It is quite confusing. So, I am always daydreaming in class, and waiting for the end of the class."

Knowledge-Producing or Not knowledge-Producing

In addition to the type of "Following the teachers", the students who belonged to the types of "Partly following the teachers" and "Not following the teachers" were found to do their own things in class. This led me to wonder: What exactly were they doing when they were expected to listen to the teachers in class? Based on the research findings, what they were doing in class could be further divided into two categories: "Knowledge-producing" or "Not knowledge-producing." Specifically, of the students who partly followed the teachers, some were listening to the teachers and studying on their own at the same time. Even though they did not entirely follow the teachers, they were doing something which could be considered knowledge-producing. As Li said, "*As I told you, I do not entirely pay attention to the Math teacher because he may teach something I already knew. That is why I also study on my own. I never listen to him until he talks about something that I do not know. It is like going back and forth*." Hang mentioned, "*I study on my own in History class, especially when she is telling us some history stories. Of course the stories are interesting, but sometimes I would feel it wastes too much time. So, I will use the story time to read something I*

want." For Chi, Geography class was not very productive when the teacher was talking about something not related to the course. Instead, she utilized the time to prepare for the upcoming tests on that day or the next day: "*Geography class is not very helpful for me, especially when she is talking about something unrelated to the class. So, I chose to read the books I want, like preparing for the tests. Time is very important to me*." Mong used time in English class in a similar way: "*I always read my own stuff in English class. Of course I also pay attention to what she is teaching. I just need to make more time for studying*."

The other type of student who were partly following the teachers were doing something which was not knowledge-producing. Unlike the first type of students, they were daydreaming, sleeping, waiting for the break, playing video games or using cell phones in class. They drifted in and out of paying attention to the teacher, but they also did some non-learning activities. For example, Tin said, "*I use my I-PHONE in the classes that I feel bored or some subjects that I am unable to make any progress. I am talking about my History. I haven't been good at History since junior high. I would not say I entirely ignore the History classes, but I would also daydream or use my cell phone*." Likewise, Zon mentioned, "*I would not pay much attention to English classes. My English is awful. I cannot understand what the English teacher teaches in class. If she is teaching vocabularies, I am able to catch up. But, when it comes to grammars*

or sentences, I will start daydreaming or thinking about video games. I am very good at League of Legends (LOL, a kind of video game)."

With regard to the students who were not following the teachers, there were still two types according to whether or not they were doing something knowledge-producing in class. The first type was the students who were not following the teachers but reading on their own in class. As Yang told me, "*I always study on my own in Math class because what he teaches in class is always something I already knew. So, I used the time to read Geography or History. These two subjects always take me a lot of time to prepare. If I do not have enough time to read them, I will use Math class to read*." Ting also said that she always read English on her own in English class because she thought what the English teacher taught was too simple for her. She hoped the teacher would teach something more useful. So, she would rather read English magazines or fiction in class: "*I can read English on my own without the English teacher. What she teaches is too simple for me. Like, she would ask us to write two sentences every day, but they are not very difficult. Now, I just hope she could give us something more useful. Before that, I would rather read my English magazines or fictions in class*."

The other type was students who were not following the teachers but daydreaming, sleeping, chatting, or using cell phones in class. Unlike the first type,

they were doing something which was not knowledge-producing. "*I never pay attention to English. Like I told you, I am not good at English. I cannot do anything about it but sleep or chat with my friends in class*," commented Shen. Another student, Tan, said "*I usually sleep or play with my cell phone in class, especially in Geography class. The teacher always uses PPT in class. The light will be turned off, and it becomes very comfortable for sleeping*."

On-subject or Off-subject

The last factor that influenced students' use of in-class time was "on-subject or off-subject." In other words, in the previous analysis the students were found to study on their own in class. There was a subtle difference regarding what they read in class. Namely, some students read something that was related to the ongoing class, whereas others read something unrelated. Of the students who were partly following the teachers, some were reading on their own, but what they were reading was still related to the ongoing class. Take Li as an example. He did not pay entirely attention to the Math class but read something else. However, he was still reading Math. He said he always studied Math on his own in Math class and would pay attention to the Math teacher only if the teacher was teaching something he did not know: "*The Math teacher may teach something I already knew, so I did something else. I usually read*

Math on my own in class. It is like I prefer to do the exercises in the textbooks where the teacher has not taught. I am ahead of the progress. I would not pay attention to him unless he teaches something I do not know."

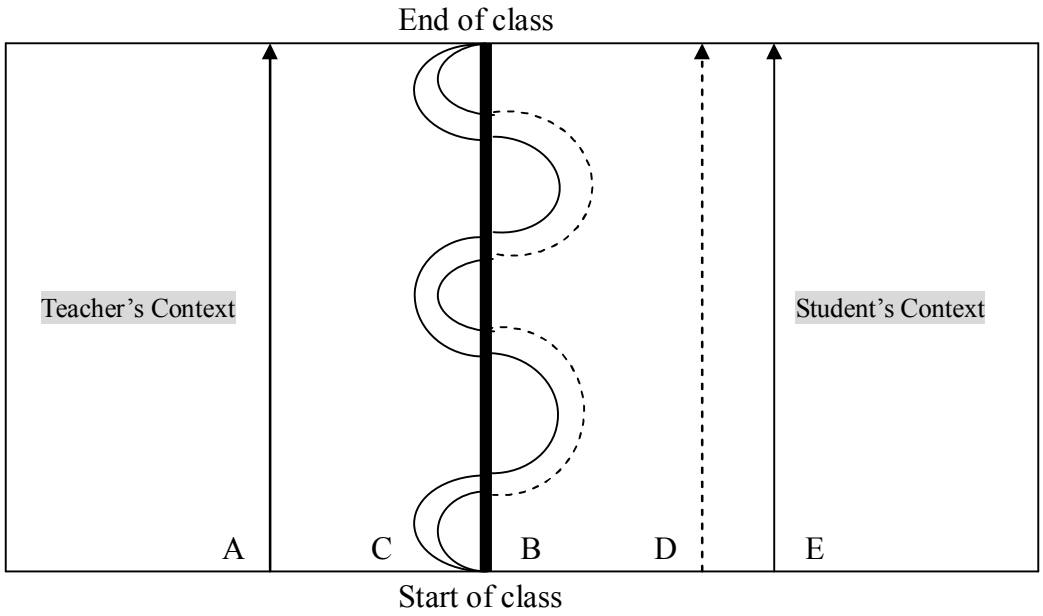
The other type of the students who were partly following the teachers was reading something off-subject. Chi said, "*I always memorize English vocabularies during Geography class. There are so many vocabularies to memorize. It seems that you never have enough time for that. So, I put the English books next to the Geography book on my desk during Geography class. When she is talking nonsense, I will turn to read my English immediately*."

As for the students who were not following the teachers, some were studying on their own, but what they were reading was still related to the on-going class, whereas others were reading different subjects. Yang said, "*The Math classes are the good periods of time for me to read the other subjects since I am not very good at Math. I feel that the return of devoting time to math is too low, so I would rather use the time for reading the other subjects*." Ting said she preferred to stick to reading English in English class: "*As I told you, I am reading English on my own in English class because it is too simple for me. English classes are just like self-studying classes for me. I never read the other subjects in English class. It would be so weird to read something written in Chinese characters*."

2.1.2.2 Double-Context Learning Situation: Five Types of Students' Use of In-Class Time

As discussed above, the students' use of in-class time was influenced by the factors of "Teachers are strict or Not strict, "Follow, Partly follow or Not follow the teachers, "Knowledge-producing or Not knowledge-producing, and "On-subject or Off-subject." On this premise, I further propose a "***Double-Context Learning Situation***" to describe how students used their in-class time in a given class. This double-context learning situation comprises both "*Teacher's Context*" and "*Student's Context*." Namely, in addition to the teacher's context in terms of lectures, learning activities or other requests designed by the teacher in a class, a given student, based on his/her own concerns, will create a parallel student's context.

Furthermore, there are at least five types of students' use of in-class time that can derive from the interactions between the teacher's context and student's context. These include Regular Learning, Fragmented Learning, Hop-on-and-Hop-off-Learning, Not Learning, and Self Learning (See figure 6. For details on the formation of the five types of students' use of in-class time, A to E, please refer to Figure 5).



＊ —— : Productive

------- : Non productive

Figure 6 Double-Context Learning Situation

A：Regular Learning

The first type of students' use of in-class time is Regular Learning (hereafter, RL). This is a traditional or expected learning in class. Students are completely engaged in the teacher's context, and follow teacher-led activities accordingly. For example, the Chinese and Citizenship Education teachers, in students' eyes, were very strict, which led students to just follow the arrangements of the teachers without doing their own things (i.e., reading on their own or sleeping). In any case, students' use of time tended to be within teachers' expectation.

B: Fragmented Learning

Fragmented Learning (hereafter, FL) is a learning strategy that goes back and forth between the teacher's context and student's context, which happens mostly in the "Not-Strict" teachers' classes, such as English, Math, Geography, and History. When teachers were not strict with their students, students were able to create their own contexts, in terms of partly following their teachers and also doing their own things in class. This type of student, however, chose to do something not knowledge-producing, including daydreaming, sleeping or playing video games. What is worth noting is that they did not entirely ignore the ongoing classes, but may come back to teachers' classes occasionally. Instead of a whole learning, their learning seems to be more fragmented.

C: Hop-on-and-Hop-off Learning

Hop-on-and-Hop-off Learning (HHL) is also a learning strategy that creates a student's context within a teacher's context, and goes back and forth between the two. It also mostly appeared in the "Not-Strict" teachers' classes, such as English, Math, Geography, and History. Similar to FL, these students also partly follow teachers, but the major difference between FL and HHL is that students of HHL did something knowledge-producing (i.e., reading on their own), especially when students thought

that teachers were discussing something not meaningful. Students would come back to the ongoing classes whenever teachers taught something they regarded as useful.

In addition, regarding studying on their own in class, what students read in class can be further divided into On-subject and Off-subject. The former refers to studying something similar to an ongoing class. For example, some students read their own English in English classes. They did not pay attention to the English teacher until she taught something new. The latter refers to studying something totally different from an ongoing class. Take Geography class as an example, some students read English while the teacher was teaching something they considered to be boring.

D: Not Learning

Not Learning (hereafter, NL) is a type of use of in-class time that is located exclusively in the student's context while ignoring the teacher's context. In other words, in the "Not-Strict" teachers' classes, such as English, Math, Geography, and History, students chose not to follow their teachers but instead to engage in activities unrelated to learning (i.e., sleeping, playing with cell phones, chatting). Strictly speaking, this type did not yield the effects of learning.

E: Self Learning

Self Learning (SL) is also exclusively within the student's context, which also happened mostly in the "Not-Strict" teachers' classes, such as English, Math, Geography, and History. The teachers' classes were also ignored by some students choosing to do their own things. What makes SL differ from NL is that the former is knowledge-producing. That is, even though students were not following teachers' classes, they made use of the time to study on their own based on their own concerns (such as preparing for the upcoming tests or reading other chapters).

Similarly, which subjects they were reading distinguishes On-subject from Off-subject learning. On-subject refers to the students who read something similar to the ongoing class, whereas off-subject demonstrated the opposite. As a whole, it is interesting to note that for the students who used the learning strategy of SL, the classes of a given subject, to some extent, appeared to become Self-Studying classes.

In sum, it is apparent that students' use of in-class time as varied and also differed from teacher expectations, as well as went against the official school timetable. Specifically, the students came up with their own ways of using their in-class time by creating a double-context learning situation in class, which at least resulted in five types of use of in-class time, including Regular Learning, Fragmented Learning, Hop-on-and-Hop-off Learning (on-subject or off-subject), Not Learning,

and Self Learning (on-subject or off-subject).

2.2 Use of After-School Time

In this section, I turn to discuss how students used their after-school time. Generally speaking, the students' use of the after-school time can be divided into two categories "After-School Studying Time" and "After-School Non-Studying Time."

2.2.1 After-School Studying Time

"After-School Studying Time" refers to the time that the students spent on learning activities related to their school learning. The most common learning activities were "Self Studying" and "Going to Cram School"

2.2.1.1 Self Studying

Most of the students participated in the self-studying classes in school, so they went home around 9:30 pm. Some students told me that they spent nearly two hours studying at home, often working until midnight. They prepared for the next day's tests or reviewed what they have planned on their schedules. Ting said, "*When I get home, it is usually around 9:30 pm. I would take a shower to refresh myself and then do some reading. Preparing for the tests or read anything I've planned till 12:00 am*."

Chang mentioned that she got up much earlier if there were too many tests coming up: "*I got up 3:00 am in the morning this week to study. I know that is crazy, but I just got to do that. I just feel like I do not have enough time to prepare for the tests. Test, test, test, everyday, that is too much actually*." As for how they used their weekends, some students went to library to study with their friends. Janet explained, "*When I got home, I always feel so exhausted. I would not read that much. I go to bed very early. But, I spend my weekends in a library for studying*."

2.2.1.2 Going to Cram School

As mentioned before, most of the students joined the self-studying classes in school, so the students who went to cram schools attended on Saturdays and Sundays. For example, Li noted, "*I had to go to cram school on the Saturday afternoons for English and for Math both on Saturday evenings and Sunday evenings*." Similarly Zu said, "*I went to cram school for all subjects. The classes are on Saturday evenings and from morning to evening on Sundays*."

2.2.2 After-School Non-Studying Time

"After-School Non-Studying Time" refers to the time that the students devoted to non-studying activities. The most popular activities were playing video/online games

and online chatting via Facebook. As Wu said, "*I do not like studying. Or, it depends on my mood. When I got home, after taking a bath, if I feel like studying, I would study for a while; if not, I always chat with my friends on Facebook or reading some fashion magazines till 12:30 am, and then go to bed*." Shen also said, "*I do not read that much at home. Even during weekends, I might just spend 2-3 hours studying and I will go out with my friends to play video/online games*."

3. The Influence of Socio-Cultural Factors on Students' Use of Time

Thus far, I have generally discussed students' use of time regardless of their social backgrounds and academic performance. In the foregoing analysis, their use of time was divided into two parts in terms of in-school time (in-class and off-class time) and after-school time (after-school studying time and after-school non-studying time). Even though this division is useful for the preliminary understanding of how students use their time, three questions still remain. First, is there any possible connection or pattern between their use of in-school and after-school time? Second, why do the students have different types of use of time? What are the possible socio-cultural explanations for the phenomena? Third, what is the relationship between students' use of time and academic performance? The following section aims to answer these questions by analyzing the possible relationships among the students' use of time,

socio-cultural factors, and academic performance.

3.1 How Social Class Influences Students' Use of Time and Academic Performance

One of the purposes of the study was to reveal the relationship between students' use of time and academic performance, as well as to examine what role social class plays in the process (as shown in Figure 3). An important first step is to define "high academic performance" and "low academic performance." This study borrows the statistical concept of Interquartile Range (IQR), which has a breakdown point of 25%. Using this model helps to divide the original data into four groups by 25%, 50%, and 75%. The students ranked in the top 25% were regarded as "high academic performance," whereas those ranked in the bottom 25% were considered "low academic performance." There were 40 students in the DASH class, so the top 25% means the students in the top 10 positions, whereas bottom 25% refers to rank 31 to 40.

3.1.1 Top 10 Students

After confirming the research subjects for further analysis, I reviewed their social backgrounds, and found that the top 10 included four upper-middle class students

(Chi, Tzu, Ting, and Li), one lower-middle class student (Tzeng), and two working-class students (Zu, and Yang)[18]. Hence, we can examine not only the reasons for the high achievement of middle-class students, but also examine possible explanations for the high achievement of working-class students. In Table 12, I provide their class rankings based on the scores of the Taiwanese Standardized Examination, along with their last three class rankings at school-wide examinations in order to double check the stability of their academic performance. According to the records, the students' academic performance appeared to be stable as Chi 's rankings in the class are 1/2/6/5, 2/4/2/7 for Tzeng, 3/9/3/11 for Tzu, 4/5/4/10 for Zu 7/10/15/18 for Ting, 8/8/11/9 for Yang, and 10/7/8/12 for Li.

Table 12 Top 10 students' social backgrounds and academic performance

Name	Social Class	Class Ranking on Taiwanese Standardized Examination	Last Three Class Rankings at School-wide Examinations
Chi	Upper-middle class	1	2/6/5
Tzeng	Lower-middle class	2	4/2/7
Tzu	Upper-middle class	3	9/3/11
Zu	Working class	4	5/4/10
Ting	Upper-middle class	7	10/15/8
Yang	Working class	8	8/11/9
Li	Upper-middle class	10	7/8/12

[18] My research participants are around 17-18 years old, so some of them were still minors. Three top-10 students, who were still minors, did not join the study because their parents did not allow them to participate. The main reason was that their parents thought if they join the study, it might disturb their learning. Even though these three students did not take part in the study, it was still easy to see their parents' high expectations as well as strict disciplinary styles for them.

3.1.1.1 Upper-middle class and Lower-middle class students with high academic performance

Of the top 10, the upper-middle class students were Chi, Tzu, Ting and Li, and the lower-middle class student was Tzeng. Their uses of in-school and after-school time were as follows.

In-School Time: Off-Class Time

As discussed previously, the students had some off-class time in school, including preparation time, 10-minute breaks between classes, lunch/nap time, differ/nap time, and self-studying classes. All of the upper-middle class and lower-middle class students were found to not only use these periods of time to chat or refresh themselves, but also to make use of the time for studying, such as preparing for the upcoming tests, reviewing what they had learned, or completing the homework from cram schools. The phenomenon of using the time for studying became even more common when the big test was approaching. For example, Chi said, "*Recently, I get up at 5:30 am, and study from 5:50 am to 7:00 am in the morning. When I get to school, I will also make use of the preparation time to go over the textbooks again for the tests on that day. I always do the same thing even if there is no test. I would say it is kind of my habit. I always study whenever I have free time. Using time efficiently is very important for me*. In addition, making plans for reviewing was another trait of

this group of students. Take Tzeng as an example, who made his own review plans: "*I used the preparation time and self-studying classes to study. I would also sacrifice my noon nap time to study if I have tests in the afternoon. I have my own plans of reviewing. Since last year, I have been reading two subjects in one day, and arranging the progress on my own. For example I put Geography and History together because they are the similar subjects that you need to spend much time memorizing the stuff*."

In-School Time: In-Class Time

With regard to how this group of students used their in-class time, it was discussed along with the five types of use of in-class time proposed previously (RL, FL, HHL, NL, and SL). In particular, there were three types of use of in-class time that predominated, including RL, HHL and SL.

Regular Learning

Their first type of using in-class time was RL. The first reason students gave for using this strategy was because the teachers (Chinese and Citizenship Education) were very strict. The students did not dare to do their own things. Second, some students thought certain teachers taught very well so they chose to listen to the classes, even when the teachers were not strict. For example, Tzeng said, "*In Math class and Geography class, I am very serious. Paying attention to the Math teacher is very*

useful for me because when I go home, I do not have to spend too much time reviewing it. As for Geography, the teacher is very good at connecting what we are learning to what we have learned before. This is quite helpful as well." Tzu agreed, saying, "*The History and Geography teachers are very nice. It is true that so many people were sleeping or reading their own stuff in their classes, but I never do that*." In addition, Chi and Ting mentioned a different reason for listening to certain classes. That is, they listened to certain classes not because they enjoyed the subject but because they never read these subjects after the classes. Ting told me, "*I never pass the History classes because I do not want to spend any time on it after the classes. That is why I have to pay much attention to the classes*."

Hop-on-and-Hop-off Learning

HHL was the second type of learning strategy performed by the high academic performance group. They chose to study on their own in class, especially when they thought ***what the teachers taught was useless for them***. That is, while the students thought the classes could not satisfy their knowledge needs, they turned to a "***Time-Stealing***" strategy to steal the time of a given class to read on their own (on-subject or off-subject) until the teachers taught something new. As for "HHL: on-subject", Chi said, "*During Math class, I just pay attention to the major concepts*

*of the class rather than the details. I've already learned that in my cram school. The progress of the cram school is much faster than that of the school. For me, the math teacher, for the most time, teaches something I already knew. I even wrote all the exercise that the math teacher asks us to write today. Of course, sometimes he would teach something new. If that happens, I will listen to him for a wh*ile. *Otherwise, I will read the math on my own. Just read different chapters*." Tzeng also used this "Time-Stealing" strategy to make time from the English classes, as the content of the classes was also something he had already learned in his cram school: "*For me, English is very simple. Most of the time in the English classes, I just read my English on my own until she is talking about grammars or idioms. I always skip the translation parts because it is nonsense. The translations were written in the textbook. I just do not understand why she has to repeat it again. It is quite straightforward*."

As for "HHL: off-subject", Tzu told me that she was already proficient at English, since she had had cram school experiences since childhood, so she usually used the time of the English classes to read the other subjects or prepare for the tests: "*English is my best subject. I work very hard on English and have joined the English cram schools since I was a child. So, I know it would disrespect the English teacher, but I seldom pay attention to her unless she teaches something meaningful*." This strategy was also used by Ting in Geography class: "*I just use 50% of concentration*

listening to the Geography teacher, and use another 50% reading other stuff, preparing for the tests or something like that. Her class is too pointless."

Self Learning

The last type of learning strategy was SL, which was also the result of the fruitless classes in the students' eyes. The major different between HHL and SL was that the latter refers to the students stealing the time of an entire class for studying (on subject or off subject). With regard to "SL: on-subject", the students thought ***some teachers were not good at teaching and very boring***, so they chose to read on their own in class. Chi said, "*I do not like the way the English teacher teaches, it is quite boring and useless. Even though I am the English assistant in class, I still do not want to follow her class. It is so ironic right? Most of the students are sleeping in her class. But I cannot just because I am the English assistant. That would be too awful if I sleep as well. So, what I can do is read English on my own to keep me awake. I think it is good for me because I can spend more time on vocabularies*."

For some students, they thought ***they could learn without teachers***, so some classes became *self-studying classes* to them. Li mentioned that, "*I can learn some subjects without teachers actually, like Geography. All you got to do is memorize everything. That is it. It has nothing to do with the teacher. You just need to spend time*

memorizing. So, I would rather read it on my own. I wanna use the time on my own." Tzeng held the same attitude toward History: "*History is simple to me. Memorize, memorize and memorize, and done. That is it. Nothing else. And, I have my own style of organizing the content of the textbooks which is different from the teacher's style. If I listen to her, it would bother me. You could say the History classes are self-studying classes to me*." Another reason is that when the students thought ***they were already proficient at some subjects***, they would disregard the classes. Ting gave an example: "*My mom forced me to learn English when I was a child because she believes that English is very important in the future. Can you believe that I have already learned all of the English textbooks for senior high school students when I was a junior high school student? That is the reason why my English is much better than the other students/subjects. So, I never listen to the English classes in school but just read some English magazines on my own*."

Speaking of "SL: off-subject", the dominant reason students did not pay attention in class was that they thought ***they were proficient at some subjects***. Explained Li, "*I read the other subjects in English class. The level of English in senior high school is not that difficult. I would not read English unless we have English tests tomorrow. The way I prepare for that is review the vocabularies. I have been learning English in cram schools for a long time. My English level is good enough to handle the English*

level of senior high school."

The second reason, similar to "SL: on-subject", was that the students believed ***they could learn without teachers***. Ting mentioned that "*I use the time of the Geography classes to read the other subjects as my Geography is very good. Not listening to her class would not hurt me, indeed. I can learn it very well without her*." The last reason for using "SL: off-subject" was that ***the students prioritized what they should read in order to maximize the returns of devoting time to any given subject***. That is, the students deemed that they could not make considerable progress on certain subjects, like Math, because they believed that their mathematical abilities would be improved by listening to one or two classes, so they would rather spend the time of the Math classes preparing for the upcoming tests, like Geography or History, which could be taken care of by just memorizing. In Tzu's view, "*My Math is not that good compared to the other subjects. So, the way I use the time of the Math classes is to devote the time to the upcoming tests. It is like missing one or two Math classes would not hurt me, or you can put it in another way, listening to one or two Math classes would not help me make great progress on my math. But, if I use one or two hours to study Geography or History, especially when I have tests on either one later, these two hours could help me get high scores*."

After-School Time: After-School Studying Time

The upper-middle class and lower-middle class students were found to use their after-school time mostly for studying. The learning activities included "self studying" and "going to cram school."

Self Studying

All of the upper-middle class and lower-middle class students spent their time at home studying and also making plans for reviewing. They also went to the libraries to study during their weekends. Chi told me, "*When I get home, I will study from 9:30 pm to 12 am. Just prepare for the tests or review.*" Tzeng had a similar routine: "*After taking a shower, I will study from 10 pm to 11:30 pm. Most of time, I will do the reviewing along with my plans because I will try my best to finish the preparation for tomorrow's tests in the Self-Studying classes in school. During weekends, I will go to the library for studying*." Ting also studied at night, noting, "*I will read from 10 pm to 12 pm when I got home everyday, but I would not prepare for the tests at home because I have my own plans of studying. I will prepare for it in school whenever I have time*" Tzu studied at night and on weekends: "*10 pm to 12 pm is my reading time at home. I also go to the library on weekends with my friends*."

Going to Cram School

In addition to self-studying time, this group of students went to the cram schools for extra learning. Chi and Tzeng went to the cram schools for all major subjects (Chinese, English, Math, History, and Geography), and Tzu, Ting and Li attended the cram schools for English and Math. In general, they all thought that going to cram school contributed to their school scores on a whole. In Chi's experience, "*I go to cram school for all subjects, so I have to go to my cram school three days a week. I have been learning in cram schools since I was a junior high school student. To be honest, going to cram school after school makes me feel exhausted. But I just cannot stop going to cram school since I really need someone to help me study. I would not know what to read if I did not go to cram school*." Ting felt that she learned more at cram school than in regular classes: "*I go to cram school for English and Math. For me, I feel like the English teacher in my cram school is much better than the English teacher in school. I learn much in the cram school. What I learn in the cram school is much faster than I do in school*." Tzeng explained how cram school had become an important part of his academic life: "*I go to cram school for all subjects. I cannot imagine what my scores would be if I did not go to cram school. I would feel a little bit weird if I did not go to cram school. I just get used to going to cram school*."

3.1.1.2 Working class students with high academic performance

Of the top 10 students, two were working class, Zu and Yang. They reported using their time were as follows.

In-School Time: Off-Class Time

The working-class students used their off-class time for preparing the upcoming tests, doing homework from cram schools or reviewing. Zu said, "*I usually make use of the preparation time, 10-minute breaks, noon nap time, and two classes of self studying for studying. If there is no test, I would write my homework from cram school because I just do not have enough time for them*." Yang mentioned, "*During the preparation time, I always quickly study for the upcoming tests on that day. I prepared for it last night. I just wanted to read it again. I usually spend the breaks and noon nap time on English, especially vocabulary. In the two classes of self studying, I will use first class to prepare for the tests and use another class to review what I want*."

In-School Time: In-Class Time

The working class students with high academic performance appeared to have two strategies for using their in-class time: RL and HHL.

Regular Learning

The first type of using in-class time was RL because some teachers (Chinese and

Citizenship Education) were very strict. The second reason was that they felt that they were not proficient at certain subjects so they needed to pay attention to the classes. As Zu said, "*I need to listen to the Math teacher because my Math is not very good. I want to improve it*." Likewise, Yang explained, "*My History is not so good. That is why I have to be much serious following the History classes*."

Hop-on-and-Hop-off Learning

The second type of using in-class time was "HHL- off subject." Similarly, it happened when the students thought ***what the teachers taught was useless for them*** or ***they could learn without teachers***. Hence, they also tended to utilize the "Time-Stealing" strategy to use the time for something meaningful or more emergent for them, like doing homework from cram schools or preparing for the upcoming tests. According to Zu: "*English is not that difficult for me, so I am able to use the time for writing homework from my cram school or preparing for the tests. I feel like I cannot entirely listen to her class. I just do not know why. I always put something other than my English textbook on the table. I will make the judgments, like which part is important and which part is not helpful for me, and decide whether or not pay attention to her…In Geography class, I will also do my own things because Geography is not that hard. I can handle it by myself*." Yang also said, "*When the*

Math teacher is teaching something I knew, I would spend the time on the other subjects. And, he will also ask us to do the exercises on the textbook. Probably he will give us 10 minutes to write two exercises. The problem is that I already finished them beforehand. So, I do not want to wait for the other students. I will read something else during that time."

After-School Time: After-School Studying Time

With respect to how they used their after-school time, the research findings indicated that they had "Self Studying" and "Going to Cram School."

Self Studying

This group of working class students also studied at home and went to the libraries for studying. Zu said, "*I will read from 9:30 pm to 1:00 am in the early morning. I just study until I am sleepy because sometimes there are too many tests the next day. In fact, my parents do not know I study so late. They always fall asleep. On the weekends, I will also go to the library near my home*." Yang told me that, "*I will still study from 10 pm to 12 am. Mostly review what I want or write some extra exercises in the books I bought*."

Going to Cram School

These two students went to cram schools as well. Zu attended for all subjects and Yang went for English and Math. They both needed to go to their cram schools twice a week. For them, going to cram school meant a lot because they were able to listen to the same things twice, since the progress of their cram schools was faster than that of the regular school. It helped them to understand something well. Zu said, "*I have all subjects in my cram school, twice a week. Going to cram school helps me a lot. I can listen to the same chapter or concepts twice. One time in my cram school and the other time in the school*." Yang said, "*I now have English and Math in my cram school. My parents asked me to go to cram school since I was a junior high school student. It helps me a lot as they always give you many exercises to practice. And, you could have the chance of listening to the same thing twice. It is quite helpful. And, if I've learned it in the cram school, I could use my time in school for something else*."

3.1.1.3 The traits of top-10 students' use of time

A brief review of the types of the top 10 students' use of time

The research findings indicated that the upper-middle class and lower-middle class students academically made good use of their in-school time (off-class and in-class time) due to the fact that they tended to grab any possible off-class time for

studying, such as preparing for the upcoming tests, doing homework from cram schools or reviewing. In addition, they appeared to have three main ways of using the in-class time: RL, HHL (on-subject and off subject) and SL (on-subject and off subject). The reasons for using RL were because the teachers were strict and/or they enjoyed how the teachers taught. The main reasons for using HHL and SL were what the teachers taught was not useful to the students at that moment and/or the students thought they could handle certain subjects on their own, so they ran the risk of reading on their own to efficiently make use of the time.

With regard to the use of after-school time, they all spent between one and three hours reading at home, even when they left the school after 9 pm. They also all had the opportunities of going to cram schools. It is worth noting that, based on the analyses above, the upper-middle class and lower-middle class students shared a similar strategy for using time.

The working-class students were also found to utilize their off-class time for studying. As for in-class time, they showed two types of using time: RL and HHL (off subject). The reason for RL was also due to the strict teachers, and the reason for HHL was still because what the teachers taught was not very useful. They also used their after-school time both on self studying and going to cram schools.

The main traits of the top-10 students' use of time

After further analyzing the similarities among the upper-middle class, lower-middle class and working class students' use of time, there were three common traits.

Active learning attitudes: Use off-class time for studying

First of all, the upper-middle, lower-middle class and working class students with high academic performance all had an inclination to use their off-class time in a knowledge-producing way. Namely, they devoted the time to their studies rather than to non-learning activities. This implicitly revealed their active attitudes toward school learning. Since they valued school learning, whenever they had free time to spare, they used it for studying.

Optimized use of in-class time: Stealing time from classes

The group of students presented an interesting phenomenon- the ***Time-Stealing*** strategy. By using the strategy of Time-Stealing, they were capable of optimizing the use of their time to avoid any possibility of wasting time. Interestingly this behavior was against the school rules and teachers' requests. Even so, it clearly demonstrated that the students did not absolutely follow what the adults arranged for them. Instead, they prioritized their needs by taking into account ***the usefulness of the classes***, ***their***

competence in the subjects, as well as the urgency for the upcoming tests, and arrange how much time they want to *steal* from the in-class time.

Increasing studying time by reducing leisure time

Last but not least, this group of students spent of the majority of their after-school time on activities related to their school learning. It not only indicated their active learning attitudes but also signified that they needed to reduce their leisure time considerably. During the interviews with these students, they seldom mentioned non-learning activities (i.e., playing video games, online chatting, using Facebook) but talked more about learning activities (i.e., going to cram school, going to the library)

3.1.2 Bottom 10 Students

Of the bottom 10 students, there were two upper middle-class students (Shen and Huang), two lower-middle class students (Janet and Min), and six working-class students (Gon, Peng, Tan, Wu, Zon, Jieh). Here we can analyze the reasons for the low achievement of working-class students, as well as offer possible explanations for the low achievement of middle-class students. In Table 13, I also provide their class rankings according the scores of the Taiwanese Standardized Examination, along with their last three class rankings at school-wide examinations in order to double check

the stability of their academic performance. According to the records, the students' academic performance also seemed to be stable as Janet 's rankings in the class are 31/33/33/29, 32/24/31/33 for Min, 33/29/30/32 for Gon, 34/37/31/33 for Peng, 35/35/32/28 for Shen, 36/39/37/38 for Huang, 37/30/35/30 for Tan, 38/31/25/35 for Wu, 39/36/34/37 for Zon, and 40/40/38/38 for Jieh.

Table 13 Bottom 10 students' social backgrounds and academic performance

Name	Social Class	Ranking on Taiwanese Standardized Examination	Last Three Rankings at School-wide Examinations
Janet	Lower-middle class	31	33/33/29
Min	Lower-middle class	32	24/31/33
Gon	Working class	33	29/30/32
Peng	Working class	34	37/31/33
Shen	Upper-middle class	35	35/32/28
Huang	Upper-middle class	36	39/37/38
Tan	Working class	37	30/35/30
Wu	Working class	38	31/25/35
Zon	Working class	39	36/34/37
Jieh	Working class	40	40/38/38

3.1.2.1 Working-class students with low academic performance

Of the bottom 10, the working-class students were Gon, Peng, Tan, Wu, Zon and Jieh. Their uses of in-school and after-school time were as follows.

In-School Time: Off-Class Time

The students had some off-class time in school, including preparation time, 10-

minute breaks between classes, lunch/nap time, dinner/nap time, and self-studying classes. There were found to use the time mostly for chatting, sleeping and using cell phones. Some even used the time to do the school homework due on that day. For example, Gon said, "*I might use the time to prepare the tests on that day, but it is not that often. I usually use the time for chatting or writing the homework due on that day. I just did not want to write the boring homework last night*." Tan and Zon also mentioned that they usually used the time for sleeping or talking about online game: "*Those periods of time are very good for me to play with my classmates, just like chatting, playing games on our cell phones, talking about the online game LOL, etc. Use it for studying? I would say "probably", just not that much*." Wu said, "I *would read a little bit for the tests. But if there is no test, I would rather listen to music on my cell phone*."

In-School Time: In-Class Time

With regard to how this group of students used their in-class time, it can also be analyzed by using the five types of use of in-class time proposed previously (RL, FL, HHL, NL, and SL). There were four types found, including RL, HHL, FL and NL.

Regular Learning

Their first type of using in-class time was RL because the teachers (Chinese and

Citizenship Education) were very strict. They did not dare to do their own things. Second, some students also thought that certain teachers taught very well so they wanted to listen to the classes. Take Peng and Wu as examples. They both said that they liked the History teacher very much. Although she was not that strict, they still chose to follow her classes. Gon had a similar view of her Math class, as she said, "*I like the way the Math teacher teaches. I also feel like it would be too disrespectful of him if I did not pay attention to him*."

Hop-on-and-Hop-off Learning

These students also *occasionally* showed HHL in certain classes. As for HHL: on-subject, it happened when the students felt ***what teachers taught was not helpful***. Yet, this phenomenon did not occur very often. Of the few occurrences, Tan serves as an example since he performed relatively well in Math compared with the other subjects. He was able to read his own Math at the same time during the Math classes: "*I would say Math is my best subject among the subjects. Sometimes, I would write the Math exercises on my own while listening to his class*."

As for HHL: Off-subject, this group of students, unlike the top 10 students, used this type of learning because ***they had not prepared for the upcoming tests on that day***. For example, Peng said "*If I did not prepare for the tests last night, I would use*

in-class time to prepare. No specific classes actually. Maybe the class right before the test." Hence, even though the bottom 10 students also used HHL: Off-subject, their reasons for engaging in it was different from that of top 10 students.

Fragmented Learning

The third type of learning was FL. It happened mostly because the students thought they performed poorly at certain subjects, so they chose to give up listening to the classes, and instead did something unrelated to the ongoing classes, like daydreaming, chatting or using cell phones. However, they would come back to the classes occasionally Jieh said, "*I do not like studying. Not at all. I always fall asleep in class and daydream. No specific classes actually. It happens in all subjects. If I feel like sleeping, I would take my cell phone out to distract my attention from the class. It always wakes me up. When I feel like I have enough energy for the class, I will go back to the teacher's class*." Peng told me about her struggles in History: "*It would be so embarrassing to tell you why I do not like History anymore. One time, I really made up my mind. I told myself I wanna improve my History. So, I spent an entire weekend for a History test. But, I got a very low score on that test. The score was even lower than the scores I would have if I did not prepare for it. Since then, I only pay half of my attention to History class, the other half for 'hanging out' in class I think. I*

do not know what to do with it. It is so frustrating."

Not Learning

Similar to FL, the students did so because their struggles in certain subjects. They mostly used the time for sleeping instead. Tan said, "*Except for Math, I sleep in every class regardless of subject. Reading is too boring for me. I never follow the official school timetable. I am not good at studying, so like the classes of History or English, all of them are the moments for me to sleep or chat with my classmates sitting next to me*." Wu mentioned, "*The Math teacher and English teacher teach too fast. I cannot understand their classes. What would you do if you get lost in class? I just give up listening, and maybe do some drawings on the textbooks instead*."

After-School Time: After-School Non-Studying Time

The working class students were found to ***do a little reading only if there were tests the next day***. If not, they typically did not spend time studying but instead on online games or chatting via Facebook. Gon said, "*I may read at home. But, I only do that for the tests tomorrow. After I feel I have prepared for the tests, I would not read anymore. During weekends, I just do something I want at home. Not reading school stuff of course*." Peng said, "*My desk at home is a mess. I cannot even have enough*

space for me to read. So, I have to study on my bed. And then, you know, I just fall asleep. So, I never study at home. I would do homework instead. That would keep me awake. I usually go on line and use FB during weekends. I would read, but not very much."

Tan, Zon and Jieh found studying at home to be particularly difficult, given their affinity for the online game LOL. They usually went out together to play LOL. Tan told me, "*I never prepare for the tests the next day. Maybe I will spend 10 minutes to read it before the test. That is all. I do not care about the tests that much. Going out with my friends to play LOL at a net coffee is more important for me*." Likewise, Zon said, "*I usually spend my after-school time playing video games or using FB. TAN and JIEH are my good game teammates. We usually play LOL together. I also have to work with my parents during weekends. We have to go to the factory around 4 am in the early morning on Saturdays. So, I got home around 10 am in the morning. I always feel too tired to read anything*." Jieh described his situation as follows: "*I go to bed very early everyday, so I never study at home. I mostly go out with TAN and ZON to play video games on weekends*."

This group of students, unlike the top 10 students, did not go to cram schools. They mentioned that ***going to cram schools was too expensive for their families***. They did not want to put an additional burden on their parents' shoulders. However,

they thought that going to cram schools might be the reason for the students who had higher academic performances. For example, Gon mentioned "*My parents cannot afford for me to go to cram schools since it is too expensive. I just do not want to give my parents too much pressure. Their work already exhausted them*." Zon said, "*I never have a chance to go the cram schools. They charge you too much. My parents do not have extra money for me. And, I do not think I like studying, so I am okay with that. But, sometimes, I just feel like some students could have high academic performances just because they can go to cram schools*."

3.1.2.2 Upper middle-class and lower middle-class with low academic performance

Of the bottom 10, the upper middle-class students were Shen and Huang, and the lower middle-class students were Janet and Min. Their uses of in-school and after-school time were as follows.

In-School Time: Off-Class Time

During the off-class time, this group of students was found to mostly use the time for sleeping, while occasionally reading for the upcoming tests. Huang told me, "*I will read a little bit in the preparation time and 10-minute breaks because I did not*

prepare for the tests last night." Shen said, "*I usually sleep in the preparation time and play with my classmates in the 10-minute breaks. I would not spend too much time on studying. I just feel like if you really want to read it, not for me for sure, you should prepare for it for hours in advance. You just do not need to read it in the preparation time. It would not help that much*." Min said that, "*If there is not test on that day, I will use the time to sleep or write the homework due on that day*." Janet also agreed: "*I would prepare for the tests in the morning. But I never prepare for the tests during 10-minute breaks or noon nap time. Sometimes I would suddenly feel like I do not want to read, so I just do something other than studying*."

In-School Time: In-Class Time

With regard to how this group of students used their in-class time, they tended to exhibit four types of use of in-class time.

Regular Learning

The first type of learning is RL. The reasons were consistent with the other groups mentioned previously: that some teachers were strict or some teachers taught very well. Explained Shen, "*I never dare to do my own things in Chinese and Citizenship Education classes. The teachers are too strict. They would even punish you if you got caught*." Min said, "*I really like the Math classes, because I can*

understand the way the Math teacher teaches. It is quite helpful."

Hop-on-and-Hop-off Learning

The second type of learning is HHL, however, only HHL: Off subject was observed, and was not very common in student responses. The main reason was that the time of a given class was used to prepare for the upcoming tests or doing their unfinished homework due on that day. As Min told me, "*I would use the time of any class to prepare for the latter tests or write my homework.*"

Fragmented Learning

The third type of learning was FL. It happened when the students felt the classes were boring, so they did something else that was not knowledge-producing. As Huang said, "*I would pay attention to Geography class. But, when she is talking about her travelling experiences, I would starts daydreaming because I am not interested in her stories at all. When she starts teaching, I would come back to her class*." Shen mentioned, "*When I am in class, I always cannot help falling asleep. Some teachers would allow me to go wash my face to refresh myself. If not, I just keep sleeping. Sometimes, in order to avoid sleeping in every class, I always chat with my friends or even the teachers. I never use the time to study the other subjects. I think that is what*

the students who have good academic performances do in our class as far as I know. For me, I just listen to the classes, sleep and chat. That is all." Janet also said that, "*I always fall asleep in Math classes. The way he talks just makes me feel sleepy. Sleeping, daydreaming, and listening to the classes at the same time*."

Not Learning

The last type of use of in-class time shown by the group of students was NL. The reason was that when the students felt they were weak in certain subjects, they would rather use the time for sleeping. For example Huang said, "*I am super awful with Math, so in every Math class, I am doing my own stuff, sleeping mostly. I never prepare for any Math test*." Min explained a similar struggle in English: "*I have not been working on memorizing English vocabularies since first-year of senior high. So, I think it would be too late for me to start now. Just unable to fix this big hole. So, I usually sleep in the English classes. Just feel like I already give up on my English*."

After-School Time: After-School Non-Studying Time

As for their use of after-school time, it also appeared that these students devoted more time to some non-studying activities, such as playing video games or surfing on the Internet. Huang told me that, "*When I get home, I do not feel like studying.*

Sometimes I just feel it is very annoying, sometimes I just feel it is too much and do not know how to start and prepare." Shen also mentioned that, "*I usually watch some TV and eat when I got home. After that, I just go to bed. Maybe I would read 10 minutes if there are the tests tomorrow. My mom will ask me to go to the library to study. I would go, but I would just stay three hours at best, and go out with my friends, like TAN. We play LOL together*." Min and Janet also reported the same way of using their after-school time. They mentioned that they would spend a little time reading and then do something else not related to school learning.

Of this group, Shen and Min went to cram schools for all subjects. Indeed, they were asked by their parents to go to cram schools. But, they thought that going to cram schools did not help them that much, since the progresses in their cram schools were faster than that of the school. They said they could not deal with the conflicts between the two. Explained Shen, "*My mom asked me to go to cram schools. I did not say anything but yes even though I know it would not help me that much. I went to cram schools before but the teachers in cram schools taught too fast, much faster than the school teachers. So, I feel that it makes me feel more confused because I feel a disconnection between the two*." Min described a similar experience: "*I do not want to go to cram schools to be honest. But if I did not go, my mom would kill me. She always said, 'I spent so much money on your cram schools. I do not care if you like it*

or not or if it would help you or not, you just go sit there!' I do not like cram schools because it is too hard for me to handle two sides. Just too difficult."

Huang and Janet did not go to cram schools, as they told their parents they did not need it. However, this did not necessarily mean that they were proficient at schoolwork. Instead, they believed that even if they did go to cram schools, it would not help them that much. They felt this way based on their previous experiences of going to cram schools. Both had attended cram schools before, but said it did not improve their scores, thus they held the attitude that going to cram school was useless for them. As Huang said, "*I went to cram schools in the first-year of senior high because my parents asked me to do that. However, it did not help me at all. They just wanted me to go to cram school because this is what other students do. I just think it is not useful for me. What we learned in cram schools is too difficult, and you also have to take care of two sides, school and cram schools. It is too much for me. I never learn how to deal with the tensions between the two. That is why I told them I do not want to go to cram school anymore. They agreed that. Maybe it is because they also think it would not make a difference in my scores even if I go to cram schools*." Janet also mentioned the same situation in the interaction with her parents: "*They told me I can go to cram schools whenever I need. But, I just told them I do not want to because it would not help me. It is like lightening up a candle at both ends. I do not like this*

feeling."

3.1.2.3 The traits of bottom 10 students' use of time

A brief review of the types of the bottom 10 students' use of time

The research findings indicated that the working-class students mostly used their "in-school time: off-class time" for non-learning activities. Namely, in their responses, they frequently mentioned the terms: sleeping, chatting or using cell phones.

In addition, they appeared to have four types of use of the in-class time: RL, HHL (on-subject and off subject), FL and NL. The reasons for using RL were because the teachers were strict and/or they enjoyed how the teachers taught. The main reasons for using HHL were what the teachers teach is not useful to the students at that moment and/or the students have not prepared for the upcoming tests on that day. Yet, the occurrence of HHL is relatively rare. Instead, the most frequent types of use of the in-class time are FL and NL. The main reason was that the students were weak at certain subjects so they did not want to follow the classes. Instead, they chose to do something else that was not knowledge producing (i.e., sleeping, chatting or using cell phones).

With regard to the use of the after-school time, students reported doing a little reading, but most of the time was used for non-learning activities. It is worth noting

that the group of students all mentioned that due to the economic concerns, they did not go to cram schools.

The upper middle-class and lower middle-class students were found to spend their off-class time for sleeping and reading. Their use of in-class time represented four types of using time: RL, HHL (off subject), FL and NL. The reason for RL was due to the strict teachers, and the reason for HHL (off subject merely) was because they had not prepared for the tests or had not done the homework due on that day. They used FL and NL because they did not perform well in certain subjects.

Two students (Shen and Min) went to crams schools, but it seemed that they were unable to improve their scores, as they had trouble dealing with the tensions between cram school and regular school. Although the other two students (Huang and Janet) had chances to go to cram schools, they reused to do so. The reason was that they believed it would not help them that much, according to their prior experiences.

The main traits of the bottom 10 students' use of time

There are some common traits among working-class, upper middle-class and lower middle-class students with low AP.

Passive learning attitude: Use off-class time for non studying activities

The first common trait among these three groups of students was that they were

passively preparing for the tests rather than actively reviewing what they had learned. If there were no tests on a given day, they used the time for non-learning activities. Hence, their learning attitude seemed to be more passive.

Let in-class time pass by without learning

The bottom 10 students were found to use the in-class time to prepare for the upcoming tests since they did not prepare for the tests at home. In addition, the most common situation was that they would choose to ignore certain classes but, unlike top 10 students, they were doing something not knowledge-producing.

Using a little time on studying after school

They also used a little time on studying. Instead, they spent their time on non-learning activities. The students usually mentioned that they did not like studying or they were not good at studying, which showed a passive learning attitude.

3.2 How gender influences students' use of time

Thus far, I've discussed how students from different social classes used their time. I now turn to discuss the effect of gender on students' use of time (top 10 and bottom 10 students). Rather than examine the influence of gender in isolation, I

combined the factors of gender and social class together in order to get a more holistic picture. There were two main reasons for doing so. First, gender differences within the same social class can be seen. Second, differences can be examined in students of the same sex who are of different social classes.

3.2.1 Top 10 students: Gender difference within the same social class

Based on the foregoing analysis, the gender difference within the upper middle-class students or lower middle-class students with high AP was not very obvious. In their off-class time they all reported doing something related to their school learning. As for in-class time, they also appeared to use the "Time-Stealing" strategy. In addition, there was not much difference in their use of after-school time. They all spent time on self studying and cram schools.

3.2.2 Bottom 10 students: Gender difference within the same social class

The gender difference in the working-class students, upper middle-class students or lower-middle students with low AP was not apparent. They all tended to learn and spend time in a more passive way in terms of missing much in-class learning time and doing some non-learning activities. There was only one major difference in their non-learning activities. Specifically, the male students engaged in playing online games, whereas the female students spent more time on online chatting.

3.2.3 Cross-comparison of the top 10 and bottom 10 students

With regard to gender difference between top 10 and bottom 10 students, there were two types of comparison: comparison of students with the same sex, such as "the comparison of the top 10 male students and bottom 10 male students", and the comparison of students with different sexes, such as "the comparison of the top 10 male students and bottom 10 female students." The gender differences in these two types of comparison, however, were similar to the discussion of the difference between the use of time of top 10 students and bottom 10 students. Hence, to avoid redundancy it is unnecessary to repeat here.

4. How parents with different social classes influence their children's use of time, educational expectations, and academic performance

I have discussed the use of time of the students from difference social classes, and its relation to academic performance. In this section, I go further to reveal how their parents influenced their use of time. In general, the time use traits of the top 10 students (the upper middle-class, lower middle-class, and working-class students with high AP) included: 1) Active learning attitudes: Use off-class time for studying, 2) optimized use of in-class time: Stealing time from classes (RL, HHL, SL), and 3) increasing studying time by reducing leisure time, whereas that of the bottom 10

students (the upper middle-class, lower middle-class, and working-class students with low AP) showed: 1) Passive learning attitude: Use off-class time for non studying activities, 2) let in-class time pass by without learning (RL, HHL, FL, NL), and 3) using a little time on studying after school.

Obviously, these two groups of students showed different patterns of using their time. The first difference is that the former showed more active learning attitudes than the latter. Second, the former had more opportunities to attend cram school than the latter. Even for the bottom 10 students who attended cram schools (or those who had chances to go but refused), the top 10 students seemed to handle the tensions between crams school and the school more easily, and then took advantage of going to cram schools. Third, the former performed more "Time-Stealing" strategies for doing other learning activities in an ongoing class, while the latter used the in-class time for non-learning activities.

Yet, despite these findings several questions remain. For example, why does the former show active learning attitudes whereas the latter did the opposite? Why does the former use more "Time-Stealing" strategies than the latter? Why did the former run the risk of breaking the school rules and teachers' requests to read on their own in class? Furthermore, how did they determine to steal the time from certain subjects over other subjects? What does the role of social class play in this process? The next

section will answer these questions by discussing their parents' disciplinary styles, educational expectations, and students' self-expectations.

4.1 Top 10 students: Parents' disciplinary styles, educational expectations, and students' self-expectations

4.1.1 Upper middle-class and lower middle-class students with high AP

The upper middle-class and lower middle-class parents tended to discipline their children in a strict but discrete way. That is, while they did not explicitly discipline their children, students nevertheless reported feeling pressure from their parents. For example, Chi said, "*When I got home, I have to study. Although my parents never directly ask me to study, but they still have some hidden ways of pushing me to study. I do not know how to explain this kind of feeling actually. It is like they would say, 'I never expect you to have a very high score as long as you are serious about your studying.' It seems like they are not pushing me, but they would keep saying the same thing over and over, even at least three times a week. So, I could feel that they still want me to achieve higher in school even though they never speak it out. I always feel pressure from them. I also have a feeling that if I did not do well on the test for College Entrance, they will be very disappointed*." Ting said she experienced a similar feeling: "*My parents never directly ask me to study because they think that I have my own ways of studying. So, they do not want to say anything about it. They just wait to*

see the final scores that I would have. If I have lower scores, they would say you have to take the responsibility of the failure, because you did it yourself, something like that. It seems like they did not give me much pressure, but it is totally the opposite. Since they do not want to give me much pressure, I force myself to be even much better than they think, so I can prove that the way they discipline me is right." Tzu added, "*They never ask me to be No.1 in the class or something. But, they still care about my learning very much. They like to ask 'how is everything with your learning in school?' something like that. Whenever they ask, I always feel much pressure*.

In addition to using strict but discrete disciplinary tactics, some parents disciplined their children directly. These children reported having a very high motivation for studying. As Tzeng told me, "*my dad has been very strict for me since junior high. I cannot touch any video games since then. And, he always asks me to study much harder. My parents give so much pressure. But I am okay with that because I also wanna try how best I can do. I remember last time I bombed my test. I talked to myself that I got to win it back next time, so I spent all of my weekends studying*." Li also said that playing any video or online games is prohibited for him: "*My parents are so strict. They sent me to learn English since I was a child. And, they even take away the cable from my computer when they go out. They just do not want me to have a chance to play games. If I got bad scores, I know they will be very*

upset."

All of the students mentioned that their parents expected them to get into a public university. They also said that it was their parents' minimum request. Achieving "this minimum" was not easy for them. For example, Tzeng explained, "*My parents ask me to at least get into a public university. They would never allow me to go to a university that no one has ever heard. They would think it is too embarrassing for them. So, I have to get into a public university*." Along with their parents' high educational expectations, all of these students had the opportunity to attend cram schools, for some, since childhood. Table 14 shows how these factors applied to each individual student.

Table 14 The influence of the upper middle-class and lower middle-class parents on their children

Name	Cram Schools	Disciplinary Styles	Parents' Educational Expectations	Students' Educational Expectations
Chi	Yes	Ask to study	Public University	Public University
Tzeng	Yes	Ask to study	Public University	Public University
Tzu	Yes	Ask to study	Public University	Public University
Ting	Yes	Ask to study	Public University	Public University
Li	Yes	Ask to study	Public University	Public University

4.1.2 Working-class students with high AP

The parents of Zu and Yang also asked them to study frequently, and also had very high educational expectations for them (Table 15). The main reason, they said,

was that their parents hoped they would be able to attend a public university and earn a better diploma, which would enable them to obtain good jobs and earn more money than their parents do. As Zu explained, "*I spent a lot of time studying because my parents care about my school learning very much. They are all hoping that I can go to public university so I can get a better job in the future. They always tell me their jobs are very miserable and tough, so they want me to get a good job, earn more money for our family. They feel that our relatives all look down us, so they want me to be somebody*." Yang reported feeling similar pressure: "*My parents expect me to go to public university. My sister does not like studying so she is in vocational high school now. They put so much expectation on me right now. Of course I feel pressure, but I just have to study hard because I need to get a better job and earn some money to support my family. My parents always tell me that I have to study hard. Otherwise I will end up like them doing miserable, low-paid jobs*."

They also mentioned that their parents did their best to support them in their studies. For example, Zu said, "*They always try their best to help me study, like sending me to cram schools. But, the most basic condition is that I demonstrated I am able to study. It seems like I am still doing well academically in school, so till now, they still have a lot of expectation on me*." Yang mentioned that he felt a sense of family obligation to do well in school: "*They just tell me if I am able to read, just do*

the best you can do, and do not worry about money. They will work something out. I know they have spent a lot of money on my cram schools. It is quite sad. I just have to study much harder and harder to repay them."

Table 15 The influence of the working-class parents on their children

Name	Cram Schools	Disciplinary styles	Parents' Educational Expectations	Students' Educational Expectations
Zu	Yes	Ask to study	Public University	Public University
Yang	Yes	Ask to study	Public University	Public University

4.2 Bottom 10 students: Parents' disciplinary styles, educational expectations, and students' self-expectations

4.2.1 Working-class students with low AP

In contrast, working-class parents' disciplinary style, educational expectations, and their children's educational expectations (shown in Table 16) were not as strict and relatively low in comparison with their more well-off peers. Realizing that their children would likely not qualify to attend pubic universities because of their academic performance, parents instead asked them to study at private universities. The working-class students also held the same low attitudes toward their future educational goals. For them, going to pubic university seemed an unreachable dream. Reflecting this perception, Jieh said "*I have never had good scores since senior high.*

My parents do not care about my learning. Sometimes they would ask me to study, but not in a very strict way. They know I am not very good at studying. They just expect me to have a stable job and live on my own. That is enough for them.

I did not go to cram schools because of economical issues. My parents did not have enough money to spare for my learning in cram schools. I have not thought of what university I should go to. Or, actually I should say whichever wants me, I would go there. Probably I can only go to a private university. That is what my parents also expect. Going to public university is an impossible task for me." Likewise, Peng noted, "*I do not like to discuss my future with my parents because it is meaningless. They also tell me that, 'you do not spend time studying, and watch so much TV, and use the computer every day, how you could go to university like this?' So, we always have a fight if we discuss something like that. I think they have already given up on me because they know I am not very good at studying. I know I am not a smart student. I never think about going to public university. That is impossible for me. Maybe I will try private university instead. I am living along with my cousin now, so they would not know if I study at home*."

The working-class students also mentioned that their parents could not afford the expense of cram schools. So, they chose not to go. Most said they accepted this situation, because they did not want to add any burdens on their parents and their

scores were too low to be saved by going to cram schools. It would be just a waste of money, they said. In Gon's view, "*My parents would not ask me to read that much because they know I am not good at studying. Thy seldom discuss my future with me. Just feel that they do not have much expectation on me. I was thinking about going to vocational senior school actually. Just want to learn some skills and find a job in the future because my parents do not have much money. I never go to cram school since they do not have money for me to do that. But that is okay. Going to cram school would not save my scores that much*." Similarly, Zon said he was more concerned with saving money than with attending cram school: "*They of course care about my studying, but just not very strict. They would be mad if I got very bad scores. Even so, I still do not want to go to cram schools. I wanna save some money for my family. I do not think studying is the most important thing even they do not believe so. They hope I could have a good job and make more money than they do. We are living in a rental house. We cannot afford to buy our own house. Life is so tough*."

Table 16 The influence of working-class parents on their children

Name	Cram Schools	Disciplinary styles	Parents' Educational Expectations	Students' Educational Expectations
Jieh	No	May Ask to study	Private University	Private University
Tan	No	May Ask to study	Private University	Private University
Gon	No	May Ask to study	Private University	Private University

Table 16 The influence of working-class parents on their children (contd.)

Peng	No	May Ask to study	Private University	Private University
Wu	No	May Ask to study	Private University	Private University
Zon	No	May Ask to study	Private University	Private University

4.2.2 Upper middle-class and lower middle-class students with low AP

The middle-class and lower middle-class parents' disciplinary style, educational expectations, and their children's educational expectations are shown in Table 17. Their disciplinary style also appeared to be not strict. It is interesting to note that the students all mentioned that even though their parents' educational expectations for them were low now, that had not always been the case. That is, their parents used to have high expectations for them until senior high. According to students, parents had lowered their expectations because their children were not doing very well academically at the senior high school level. So, their parents tended to hold the attitude of "let it be" without interventions. As Janet told me, "*My parents are not satisfied with my scores right now. Totally understandable. But they just accept that. They cannot do anything about it now. Neither do I. They just do not expect me that much anymore. They used to have much expectation on me when I was a junior high student. I had very good scores at that time. But during the first year of senior high, it was a totally different story. All of my subjects became awful. Maybe the contents are too hard. About university, now, they just expect me to go to whatever I want. What can I expect? Private university probably*." Min mentioned a similar experience: "*My*

scores were very good in junior high. I am talking about top 10. During that time, my mom would send some fruits to my room in the evening while I was studying. I knew she did that on purpose because she wanted to make sure if I was studying. My mom cared about my studying a lot since my sister was not good at studying. But, since I got into senior high, I got very bad scores. I tried to do something about it, like going to cram schools, but just never worked. I feel like dropping from paradise to hell. I already give up fighting, but my mom still insisted to send me to cram schools. It would not help."

All of the students had low educational expectations, which they associated with poor achievement in in senior high. Consequently, this lowered their parents' expectations as well. Some of them (Huang and Janet) even told their parents that they did not want to go to cram school anymore because instead of helping it was actually causing troubles in their learning due to the disconnections between the two. Their parents agreed, since going to cram schools was no longer seen as leading to improved academic achievement. For example, Huang said, "*My scores were good in junior high. But, it is very low now. So, I told my parents I did not want to go to cram schools anymore because it did not help me. There are always disconnections between cram schools and the school. They also said okay. I think they also think that it would not help me anymore. They just let me decide what I want.*"

Min and Shen had attended cram school until recently. But, they also said that they did not think cram schools could help them, since what the teachers taught in cram schools was too difficult and they could not deal with the tensions between cram schools and regular school. Shen said, "*For me, what the teachers teach in cram schools, as I told you, is too difficult for me. And, I never learn how to handle with the tensions between my cram schools and the school. They may teach different chapters, different contents, at the same time. Quite confusing*."

Table 17 The influence of the upper middle-class and lower middle-class parents on their children

Name	Cram Schools	Disciplinary styles	Parents' Educational Expectations	Students' Educational Expectations
Janet	No	May Ask to study	No Expectation	Private University
Huang	No	May Ask to study	No Expectation	Private University
Min	YES	May Ask to study	Private University	Private University
Shen	YES	May Ask to study	Private University	Private University

4.3 How parents' disciplinary styles, educational expectations and students' educational expectations influence students' use of time.

In the foregoing analysis, the top 10 and bottom 10 parents' parents' disciplinary styles and educational expectations were clearly different. The former tended to be more strict, active, and express higher expectations, whereas the latter demonstrated the opposite. To some extent, these trends reveal some connections and/or similarities

between parents and their children. Specifically, upper middle-class and lower middle-class parents (or working-class parents) tended to hold high and active (or low and passive) attitudes toward their children' learning and future, and their children also tend to have high and active (or low and passive) attitudes toward their learning and future. When the students had low and passive attitudes, they maintained attitudes of "getting by" or "let it be," and devoted more time to non-learning activities. In contrast, when students had high and active learning attitudes, they reported being more serious about their studying. In order to meet their parents as well as their own expectations, these students spent more time studying, including making use of the off-class time in school, or even running the risk of breaking the school rules to steal time from their in-class time in order to optimize the use of the time. Especially for the students who rushed around their cram schools and the school, they said they needed more time to manage both sides. As Chin said, "*I did not have so much pressure in junior high. I would not study on my own in class at that time. Not even in the first two years of senior high. But now I am in the last year of senior high. The big test is approaching. I feel so stressed, and always feel like having no time for studying. So, I have to read something else in class*." Tzeng also mentioned the same situation: "*I am not saying that I did not have pressure in the third year of junior high. But what we learned in junior high was much easier. Everything we learn in senior becomes so*

difficult and also takes a lot of time to prepare. It would become much crazier if you go to cram schools. You just need to make time at all costs, even in class."

There is another interesting question arising here: How do students decide which subject to steal the time from? This "Time-Stealing" strategy was highly related to the students' perceived competence in a given subject. From the students' responses in the previous analysis, they tended to mention that they mostly stole the time from the classes that they considered not useful. If they were proficient in a given subject, they would choose to use HHL or SL to steal the time. But, why were they so proficient in that subject? To a large extent, their achievement was related to attendance at cram schools. Take Ting as an example. She had been learning English in cram schools, and as a result was extremely proficient at English. Her English ability went beyond the level of senior high, since she had already learned everything that would be taught in senior high when she was a junior high school student. Thus she always studied on her own in the English classes.

Another function of going to cram school was that the progress of cram school was usually faster than that of school. When students attended cram school, they could learn what they would learn in school in cram schools first. Hence, when they came to school, they were able to decide to follow, partly follow, or not to follow the teacher-led activities to maximize the efficiency of their time use. My study found

that middle-class students had more opportunities to attend cram schools, highlighting the role of social class in the process.

5. Gender difference in the disciplinary style and educational expectations of parents with difference social classes

According to the research findings, parents with different social classes did not have much gender difference in their disciplinary style and educational expectations. That said, they taught their children in a similar manner, regardless of their children' sex. What really mattered was "whether or not their children were capable of studying". As Tzeng (from a lower-middle class family) said, "*I have an older sister. I feel that my parents have more expectations on me because she does not like studying. That is why I feel stressed*." Zu (from working-class family) commented, "*I have an older sister and a younger brother. They do not like studying. I have better scores than they do. So, my parents hope that I could go to a better university in the future*." Huang (from upper middle-class family) noted, "*My older brother is very good at studying. He is studying in National Taiwan University now (ranking # 1 in Taiwan). I am not good at studying, so my parents would not ask me to study that much*." Jieh (from working-class family) mentioned, "*I have a younger sister. She is a junior high school student now. Her scores in school are way better than I do. So, my parents*

have more expectations on her."

Hence, regardless of gender, the disciplinary style and educational expectations of parents were based on their children's academic performance, and also resulted in differences in students' educational expectations and use of time.

Summary

In this section, I discussed how the students from different social classes use their in-school and after-school time, and also revealed the relationships among their use of time, parents' disciplinary styles and educational expectations, students' education expectations, and academic performance. I also focused on the middle-class students with low academic performance and working-class students with high performance, and endeavored to find some possible explanations. Based on the findings, these three-year senior high school students' use of after-school time included non-studying time (online-chatting and playing video games) and studying time (self studying and going to cram school). As for in-school time, it also included off-class time (chatting, sleeping, using cell phones) and in-class time (RL, HHL, FL, SL, and NL).

The upper-middle class and lower-middle class students with high academic performance appeared to show active learning attitudes, which were embodied in an

optimized use of their off-class time as well as using "Time-Stealing" strategy to steal time for the in-class time. They did so because of the high educational expectations given by their parents, which also led them to have high self-expectations. My research also found that the students would steal time from any given subject at which they were proficient. Their competence in certain subjects was linked to the opportunity to attend cram schools. In a general sense, the middle-class students were found to have more opportunities to go to cram schools than their working-class counterparts, and their parents also gave them higher expectations, which resulted in their active use of time and higher academic performance.

As for working class students with low academic performance, their use of time (in-school and after-school time) seemed to be more passive. That is, they did not spend much time studying and rarely stole time from a class for studying. Instead, they let their learning time in class pass by. This passive learning attitude was related to their parents' low educational expectations and limited economic resources to support their studying (i.e., going to cram schools).

Interestingly, my research also found that some working class students had high academic performance, while some middle-class students had low academic performance. The explanation for the former was that the working-class parents did not want to see their children end up doing the same job as they did, so they would

sacrifice everything to support their studies. The explanation for the latter was that the academic performance of the middle-class students had dropped off since the first year of senior high. As a result, students started thinking that they were not capable of studying, which also lowered their parents' expectations, and then ultimately resulted in passive learning attitudes.

X. Discussion

This section has two major aims. First, I discuss the convergent, complementary, and divergent parts between the findings of the quantitative and qualitative sections. Second, I turn to discuss the research findings along with the previous literature in order to clarify my study's unique meanings and contributions to the field.

1. Convergent, complementary, and divergent parts between the findings of the quantitative and qualitative sections

According to Erzberger and Kelle (2003), the findings of mixed research can be convergent, complementary, or divergent. My study has the same situation, which is discussed as follows.

1.1 Convergent parts

In my study, the quantitative and qualitative sections both found that students'

social origins played an important role in determining their cultural capital (i.e., parents' disciplinary styles, use of time, and going to cram school). The difference of cultural capital also accounted for differences in academic performance.

1.2 Complementary parts

In addition to the convergence, these two sections also appeared to work together to clarify certain issues in different ways. For example, the quantitative section helped to reveal how Taiwanese three-year senior high school students used their "after-school" time and its relation to cultural capital, while the qualitative section was devoted to understanding how Taiwanese three-year senior high school students used their "in-school" time, which was absent in the quantitative section. (Although the qualitative section also explored how the students used their after-school time, the quantitative section provided a wider picture). In this regard, through these two methods, a holistic picture was developed of how Taiwanese three-year senior high school students use their in-school and after-school time.

1.3 Divergent parts

Yet, there are also some inconsistencies between the findings of the two sections. The first divergence is the differences within the middle-class groups. That is, by

using the statistical techniques, the quantitative section was able to easily compare differences between the upper-middle class and lower-middle class students. However, in the qualitative section, I did not find much of a difference between the upper-middle class and lower-middle class students. One possible reason is that the research sample of the qualitative research was much smaller than that of the quantitative research. Instead of finding the difference within middle-class groups in the qualitative research, I emphasized the difference between the middle-class and working-class students. Overall, the results of the qualitative research are mostly consistent with that of the quantitative research.

2. Back to theory and existing research

2.1 Socio-cultural meanings of students' use of time

The previous research (Chen, 2003; Ding, 2003; Hu, 2003; Huang, 2002; Wang, 1995), especially in Taiwan, mostly analyzed students' use of after-school time without taking into account the fruitful socio-cultural meanings. The possible reasons that cause difference in students' use of after-school time were still absent. To fill this gap, one of the purposes of my study was to analyze how three-year senior high school students used their after-school time from the socio-cultural angle. My study found that students from various social classes used their after-school time differently. In general, middle-class students tended to spend more time on studying activities

(self studying and going to cram schools) in their after-school time and demonstrated higher academic performance when compared with their working-class counterparts.

In addition, gender also played a crucial role in determining how students spent their time. Female students spent more time on learning activities after school, while their male counterparts devoted more time to non-learning activities. Furthermore, for the female and male students who spent time on non-learning activities, the former seemed to spend more time on online chatting while the latter was more interested in playing video games.

2.2 Use of in-class time: School achievement is equal to time-on-task?

Rather than merely concentrating on students' use of after-school time, my study also focused on their use of in-school time (off-class and in-class time) from their own perspectives, an angle that has been rarely examined in previous research. Based on the students' responses, my study proposed several "double-context learning situations" to represent how students used their in-class time. Specifically, some students came up with a "Time-Stealing" strategy to steal time from an ongoing class, while to some extent ignoring the teacher-led activities. This strategy was almost exclusively found among the top 10 students, and turned out to be a useful strategy, as it helped them enhance the efficiency their in-class time, and may give rise to the

relatively high academic performance. Ironically, they were not only violating school rules and teachers' requests, but their high academic performance appeared to be unrelated to the teachers.

Berliner (1990) has analyzed the relationship between students' academic achievement and "time-on-task." Specifically, he emphasized the importance of "Academic Learning Time" (ALT), defined as "that part of allocated time during which a student is engaged with materials and activities in which a high level of success is attained, and in which the materials and activities are related to outcomes that are valued" (p.18). Namely, as Berliner asserted, ALT is a complex concept which is "related to or made up of a number of other concepts, such as allocated time (the upper limit of ALT); time-on-task (engagement in tasks that are related to outcome measures, or, stated differently, time spent in curriculum that is aligned with the evaluation instruments that are in use); and success rate (the percent of engaged time that a student is experiencing a high, rather than low, success experience in class)" (p.5).

Along with this ALT model, Berliner further argued that there are at least two advantages by using ALT model: 1) connecting the curriculum content and the outcome measures, and rather than recognizing that time-on-task is the most desirable measure to study about a student's behavior, what is wanted is "time-on-the-right-

tasks; 2) magnifying the importance of success rate (time-on-task spent by students for high success). In a word, Berliner's ALT model was based on an assumption that if a given student spends more time on teacher-led activities (time-on-task or, specifically, time-on-the-right-tasks), s/he performs well academically (high success rate) as he claimed that "the strongest statement derived from the ALT model of instruction is that unless ALT is affected in some way, there will be no changes in student achievement at all" (p. 22).

However, if Berliner's model was applied to the group of students in my study in the Taiwanese context, the top 10 students' academic performance would be predicted to be very low, due to the fact that they routinely partly or entirely neglected the teacher-led activities. Yet, my study found a quite different phenomenon. Although the group of students did not follow the teachers, they were doing something highly knowledge-producing. Perhaps they were more cognizant of how to use their in-class time, even though it went against the teachers' expectations. Hence, I argue that focusing exclusively on how much time students spend on teacher-led activities (as "time-on-task" in Berliner's model) is risky, narrow and problematic.

2.3 Another meaning of breaking school rules: Middle-class students' subjectivity

Based on the empirical evidence, students from middle-class families performed

academically at a higher level than their working-class counterparts. One reason for their high academic performance was that they obtained more cultural capital from their parents. This phenomenon is consistent with Bourdieu's cultural reproduction, as well as some empirical research (Chang, 2006; Chang, 2009; Lin, 1999; Hsieh, 2003; Li, 2003; Lin & Huang, 2008; Su & Huang, 2009; Wang & Yo, 2005).

Yet, middle-class students with high academic performance were also found to run the risk of breaking the school rules *for one purpose*. That is, they were using "Time-Stealing" strategy to optimize the use of their in-class time, even if it was violating the teachers' requests at the same time. This demonstrated that the middle-class students also had their own timetable, which was different from the official school timetable. This phenomenon is inconsistent with the expectations of what middle-class students would do in school. For example, previous research has mostly argued that since school reflects the values and habits of middle-class families, middle-class students can easily adapt to the school environment and follow school rules and teachers' requests without difficulties, while working-class students have more difficulty due to barriers in cultural capital (Chiu, 2007; Tang, 1998). For the working-class students in my study, especially for those in the bottom 10, they were essentially ignoring what the teachers asked them to do in class by daydreaming or using cell phones, which is consistent with the previous research. The middle-class

students with high academic performance, however, were not completely following the teachers in class either. This suggests that "not following teachers" is not for a trait that is exclusive to working-class students.

What needs to be clarified here is the various reasons for these similarities. In Willis's research (1977), "the lads" violated the school rules by dossing, blagging, wagging, and having a laff, as know as "counter-school culture", to "win symbolic and physical space from the institution and its rules and to defeat its main perceived purpose: to make you "work"" (p. 26). By doing these behaviors which generate informal cultural meanings and practices, the lads win "a form of self-direction" (p. 26). Furthermore, Willis asserted that "this self-direction and thwarting of formal organizational aims is also an assault on official notions of time; the most arduous task of the deputy head is the construction of the timetables" (p. 28). This is because the timetable never seems to work for "the lads" as they have "their own rhythms and patterns of movement, and these rhythms reject the obvious purposes of the timetable and their implicit notions of time" (p.28). For "the lads", "time is used for the preservation of a state- being with "the lads"- not for the achievement of a goal-qualifications" (p. 29). Hence, Willis argued that "the lads"' rejection of school and opposition to teachers can be seen in the light of a penetration of the teaching paradigm…their culture denies that knowledge is in any sense a meaningful

"equivalent" for the generality of working class kids" (p. 126). Namely, the working-class students violated the school rules *on purpose* because they could "see through" the operation of the school, and saw the school system as the oppressor.

Yet, the middle-class students in my study ran the risk of being punished, not because they saw the operation of the school as oppressive, but because they could "see through" the function of what was taught in class. Namely, they realized that the content of an ongoing class could not meet their knowledge needs. Hence, instead of wasting their valuable in-class time, they, to some extent, were *forced* to break the school rules to read something else on their own. If "having a laff", in Willis's study, is a representative of working-class students' subjectivity to resist the *oppression of the schoo*l, "Time-Stealing", in my study, is a representative of middle-class students' subjectivity to resist the *dysfunction of the school*.

2.4 Explanations for middle-class students with low AP and working class students with high AP

The group of top 10 students included two working class students, while there were four middle-class students in the bottom 10. Their academic performances did not follow the norms expected in academia. Some possible explanations for these outliers are as follows.

2.4.1 Why Middle-class students failed academically: Mutual cultural adaption

The middle-class students with low AP in my study were Janet, Shen, Min and Huang. This group of students had a common trait of high academic performances until senior high school. However, their performance dropped off in high school, because *the contents in the school level of senior high were too difficult for them*. Even after the interventions of their parents, such as giving them the opportunities to go to cram schools, they still did not show much improvement. As Devine (2004) pointed out, the previous research dealing with the issue of social reproduction seemed to have a general assumption that middle-class parents can retain their children's success in education by taking advantage of all sorts of abundant resources. Yet, Devine argued that this assumption was disputed and cannot reflect the real situations that happened to middle-class parents and their children.

In fact, the real situation was that some middle-class students in my study (like MIN and SHEN) were reluctant to go to gram schools. They went there only because their parents forced them to do so. Bowser (2007) and Power, Edwards, Whitty, and Wigfall (2003) had the same findings in their studies that middle-class children did not entirely accept their parents' arrangements and supports. Even though they followed what their parents said, they did not do that for themselves; hence, they did not perform well academically. All of these indicate that middle-class parents cannot

always help their children succeed in education by utilizing their resources.

As a result, this group of students tended to view themselves as "not-good-at-studying" students, and even refused the chance of going to cram schools (such as Janet and Huang) as they believed that it never helped, and ultimately lowered their educational expectations. In a similar study of Taiwanese junior high students, Huang (2004) argued that they were frustrated by the results of their school tests, and then generated a passive learning attitude, or "fate of failure." The middle-class students with low AP in my study showed similar attitudes, but unlike Huang's research, this passive learning attitude appeared in the level of senior high.

Furthermore, this passive learning attitude not only influenced the group of students, it also lowered their parents' educational expectations and changed their parents' disciplinary style from "*interfering actively*" to "*let it be*." This discussion of the transformation of parents' educational expectations as well as disciplinary style has been rare in the existing research. Lareau (2002) studied parents' disciplinary styles in black families and white families, using interviews and observations of children, aged 8 to 10, and their families. She argued that there were two different parenting styles observed: concerted cultivation and the achievement of natural growth. While middle-class parents show concerted cultivation in terms of fostering

their children's talents through a series of organized leisure activities and extensive reasoning, working-class and poor parents engaged in the accomplishment of natural growth, providing the conditions under which children could grow without arranging their children' leisure activities.

While Lareau's ideas helped to partly explain the students in my study, I argue that her distinction between "concerted cultivation," favored by middle-class parents, and "the achievement of natural growth," adopted by working-class parents, should also include a dimension of "school level." That is, parents' disciplinary styles may not always remain the same, and can change *over time* according to their children's school levels. Take the middle-class students with low AP in my study as an example, their parents' disciplinary styles before senior high tended to be "concerted cultivation." Yet, when they had reached the level of senior high, their parents' disciplinary styles adapted to their children's low academic performance and educational expectations (fate of failure, in particular), transforming into "the achievement of natural growth."

Hence, it is more likely that middle-class parents' requests and expectations of their children are not absolutely fixed, and can be *reshaped by their children's real performances*. I term this process of the transformation as the process of "***Mutual Cultural Adaption***." The process of mutual cultural adaption is related to one of

Freire's (1970) concepts, "Dialogical relations" (p. 79). By discussing the relationship between teacher and student, Freire proposed a new dialogical relation to resolve the teacher-student contradiction. That is, he asserted that "through dialogue, the teacher-of-the-students and the students-of-the-teacher cease to exist and a new term emerges: teacher-student with students-teachers" (p.80). Inspired by Freire, I asserted that the logic of mutual cultural adaption is quite different from Bourdieu's cultural reproduction and Willis's cultural production, as the logics of their theories tend to be "parents influence children," whereas what I propose here is "parents/children influence children/parents." In other words, while the relationship between parents and children in previous theories seems to be a one-way path, I conceptualize it as a two-way path.

Taken together, rather than relying exclusively on Bourdieu's, Willis's or Lareau's ideas, the process of mutual cultural adaption can provide a more sound explanation to clarify how the middle-class students failed to exhibit high AP.

2.4.2 Why working-class students succeed: Anti-reproduction attitude

This study also found some working-class students with high AP. They were Zu and Yang. These two students performed well academically as a result of their parents' high educational expectations for them. As Li (2010) pointed out, working-class

students can do well academically if they and their parents all had high educational expectations. Yet, Li did not look into why both of them can have high self-expectations. The reason for the parents' high educational expectations in my study was that they hoped that their children could get better jobs and make more money for the family via high educational achievement- or, in a phrase, *do not end up like me doing miserable jobs*. The parents' expectations were internalized by Zu and Yang, since they both mentioned that they wanted to achieve higher, and obtain a high-paid job in the future to earn more money in order to help their families. In other words, their parents' expectations (or pressure) impelled them to study harder.

In Willis's research (1977), the working-class students in his study inherited the negative values with regard to the functions of school from their parents, such as disdaining the mental activities while worshiping the practical knowledge, and then generated a counter-school culture of resistance and opposition to academia and authority in school. Yet, during the interviews with Zu and Yang, they did not mention that their parents disdained the functions of education (in fact, this was true for all of the working-class students interviewed). Instead, their parents urged them to study hard in order to help their families economically. This attitude could be regarded as "***anti-reproduction attitude***," which could help working-class students escape from the cycle of reproduction.

Indeed, this anti-reproduction attitude could better represent how working-class parents think about education in a Taiwanese society that is highly diploma-driven. "*Getting a good score, going to a good university, and then getting a good job*" is the most prevalent attitude, regardless of social class. However, this appears to be more crucial for working-class parents because it is a relatively faster and safer path for their children to succeed. Lin and Chang (2008) studied how junior high school students interpreted the functions of a diploma. They found that working-class students regarded owning a diploma as a way to glorify their families. They argued that for working-class students success in education went beyond the individual level, implicitly connecting to the dignity of their families. Apparently, it is nearly impossible for the parents (especially working class) in Taiwan to disdain the functions of education. Hence, along with this anti-reproduction attitude, if a given working-class student never performs well academically, his/her parents would not have high educational expectations. However, if s/he demonstrates that s/he is good at studying, although his/her parents may not have abundant resources compared to other middle-class parents, they will still help him/her at all costs.

2.5 School as supplemental role: Interactions among official school, cram school and students

The subtle interactions among official school, cram school and students are rarely seen in the literature, as the research on this topic has usually focused on the effects of going to cram school on students' academic performance (Chen, 2009; Sun & Huang, 1996). Instead of concentrating on how going to cram schools influences student's academic performance, my study also paid attention to how it influences students' use of in-class time in school. I found that many students used the "Time-Stealing" strategy to steal time from an ongoing class. The main reason for this phenomenon was "the chance of going to cram schools." Almost all of the students going to cram school mentioned that the progress of their cram schools was faster than that of the school, or they were proficient at certain subjects because of going to cram schools. Thus when the students came to the school, they had already learned something they were expected to learn in school. For this group of students, the official school played a *supplemental* role in their studying, and they could choose to listen or not listen *based on their timetables*. As a result, cram schools, to some extent, have replaced the official school, especially in the intellectual aspect, ultimately weakening the functions of school.

Furthermore, the middle-class students were found to have more opportunities to

attend cram schools when compared with their working-class counterparts. This enabled them to even have *more extra learning time stealing from their in-class time*. This process further deepened the gap between social classes, and undermines the social justice.

XI. Conclusion and Suggestion

The section of conclusion is aimed at answering the research questions in my study based on the findings and discussions above, and the section of suggestion is to provide some suggestions for the future research.

1. Conclusion

In the field of sociology of education, topics related to social justice have drawn much attention from researchers, regardless of their various research interests, academic training, and fortes, because the ultimate goal is to create a better educational environment and guarantee every child success in education, as well as help them to realize their potentials and dreams, regardless of gender, social class, race, ethnicity, sexuality, religion, etc.

Along the same lines, my study was devoted to analyzing one of the most taken-for-granted aspects in our daily life, students' use of time (in-school and after-school time), and connecting their use of time to socio-cultural factors (i.e., social class, gender) as well as academic performance. To this end, I utilized both

quantitative and qualitative approaches to collect the wider and deeper data. The research findings indicated that the Taiwanese three-year senior high school students' use of time was influenced by their cultural capital (parents' disciplinary styles, use of time, the amount of subjects acquired in cram schools). In particular, the middle-class students (especially for those with high AP) had more cultural capital, showed more active learning attitudes, and achieved higher in school, when compared with their working-class counterparts. In addition, female students also achieved higher than their male counterparts. However, there was no observed gender difference in the disciplinary styles of the parents with difference social classes.

The findings also showed that students created a "double-context learning situation" in an ongoing class, which included teacher's context and student's context. There were five types of use of in-class time derived from the interactions between the two contexts: RL, HHL (on-subject or off-subject), SL (on-subject or off-subject), FL, and NL. The middle-class students, rushing around the school and their cram schools, were found to use RL, HHL, and SL by using the "Time-Stealing" strategy to steal time from an ongoing class to read something on their own while partly or entirely ignoring the teacher-led activities in order to optimize the efficiency of the in-class time since they had limited time to prepare for nearly endless tests and homework. This phenomenon challenged the assumption that academic performance

is mostly determined by the amount of time-on-task. By contrast, the working-class students appeared to use RL, FL, and NL, letting the learning time pass. They seemed to have more passive learning attitudes.

The distinction between the students from different social origins hinges on their parents' disciplinary styles, educational expectations, and providing the chance of going to cram schools, which is consistent of Bourdieu's (1984) cultural reproduction theory. That is, the middle-class parents were found to discipline their children in a more strict way, and have higher educational expectations, as well as give them more chances to attend cram schools. All of these enabled the children to have higher educational expectations for studying. In this regard, "making more time" for studying became crucial, so they ran the risk of stealing time from any given subjects because they had already learned what teachers were going to teach in their cram schools. Conversely, the working-class parents seemed to be much lower in all of the aspects mentioned above. Their children, accordingly, had lower educational expectations.

One of the purposes of this study was to figure out some possible explanations for working-class students with high AP and middle-class students with low AP that cannot be accounted for by Bourdieu's (1984) cultural reproduction theory. According to the research findings, the working-class students with high AP were found to have

similar use of time as the middle-class students with high AP because their parents were also able to give them active educational expectations and extra learning resources. The working-class parents did so due to the operation of "anti-reproduction" attitude: *do not end up like me doing miserable jobs*. The working-class students had internalized this attitude and studied much harder, not only for themselves but for their families.

With regard to the middle-class students with low AP in my study, their low achievement can be accounted by the process of "mutual cultural adaption." Namely, during their learning process, their scores decreased even with their parents' interventions. This not only frustrated the students, but also their parents. Hence, their parents seemed to change their disciplinary styles (from "interfering actively" to "let it be") and lowered their educational expectations. Obviously, parents' disciplinary styles and expectations could be reshaped by their children over time.

Unlike the logic of Bourdieu's (1984) cultural reproduction and Willis's (1977) cultural production which use a one-way path: "parents influence children," I argued that the process of this transformation showed the possibility of a two-way path: "parents/children influence children/parents." Using the two-way-path logic of mutual cultural adaption to discuss the relationship between parents and children is more useful to capture the dimension of the possibility of *changing over time*.

Last but not least, the youth culture that the research participants showed in my study is quite worth noticing. The young people I studied tended to spend nearly all of their time studying, and did not even have chances to participate in other extracurricular activities. This phenomenon not only happens in Taiwan, but also in Japan and South Korea (Nishino & Larson, 2003; Lee, 2003). Instead of treasuring their current time, senior high school students in those three countries seem to just look forward to their future. This could be problematic because when they find out that their jobs or their lives cannot match what they expected before, they would be more frustrated and depressed and may have some problems during adulthood as the stage of "adolescence" can be seen as a crucial transmission moment from "childhood" to "adulthood" (Silbereisen, 2003). Hence, parents and teachers should not just ask their children/students to sacrifice everything for studying. Otherwise, learning would become a nightmare for them.

2. Policy Implications: Some Suggestions

The study revealed that students' interpretations of time were varied, and can be different from school timetables. This phenomenon indicated that students did not unconsciously accept what their schools arranged for them. Rather, they showed their agency by coming up with their own ways of use of time. Furthermore, how they used

their time was also connected to their socio-cultural factors (e.g., social class and gender), which manifested the possible connections and disconnections between the cultures that students inherited at homes and school cultures. In this regard, all of these ask for more research on whether the timetable in a school can be applied to all of the students from different social backgrounds. For example, each class in high schools in Taiwan is usually 50 minutes. Is there another way to schedule the class time other than 50 minutes in order to meet students' needs? In addition, the study also found that some students with high AP (mostly from middle-class families), can read some subjects (e.g., History and Geography) on their own without teachers. Their high performance on those subjects appeared to have little to do with the teachers. This ironic phenomenon challenges the assumption that "teacher teaches and students learn." Instead of sitting in those classes, if those students are *officially* allowed to have more self-studying time or use the time for other subjects, could they perform even better academically? It is worth conducting more research to understand the effects of the flexibility of class time.

In addition, the future research should also include the perspectives of school teachers as they are the persons who are familiar with how students use their time in class. It is interesting to ask the following questions: What do teachers think of students' use of in-class time? What do teachers react in class? Moreover, cram-school

teachers' opinions should be also included to deal with the following questions: How do they teach students in cram schools? How do they think of what students learn in formal schools? How do they think of formal school teachers? How do they decide the progress of cram schools? In so doing, the holistic picture of the interactions among students, formal schools, and cram schools can be captured.

With regard to the implications for the practitioners and policy makers, students apparently have different competence in certain subjects, so curriculums and instructions should be adjusted to students' real abilities. In Taiwan, even though students are mixed up with different abilities, teachers can also give high-ability/low-ability students more/less difficult assignments so that they would not feel bored in class. If a teacher just uses one standard for everyone in class, it is at most just a superficial equality.

At any rate, a major implication of my study is that educational systems should incorporate the perspectives of students from different social backgrounds since what students think and how they feel could be different from adults. Hence, reexamining the educational systems (e.g., curriculums, school rules, instructions) from students' eyes is paramount for future research as it gives students an opportunity to have a say and show their agency. Freire (1970) argued that "one of the basic elements of the relationship between oppressor and oppressed is *prescription* (pp. 46-47)." He further

pointed out that “every prescription represents the imposition of one individual’s choice upon another (p. 47).” If students follow school rules without critical thinking, their behaviors are merely “prescribed behaviors.” This relationship is quite problematic as following the guidelines of school authority (oppressor) will force students to give away something important-voice and autonomy. I always believe that educational systems are designed for students, so their voices are very crucial for scholars, practitioners, and policy makers. My study, focusing on how Taiwanese senior high school students used their time, was devoted to giving them a chance to express themselves. It is a big step for me because it is the beginning of my academic career to fight with them.

XII. Appendices

Appendix A The Classification of Social Class

Taiwanese Bureau of Employment and Vocational Training classification		Level of education	Social class
1	Politician, High Administrator, Supervisor, Executive, Manager	University or Graduate school	Upper middle class
2	Supreme Professional		
3	Regular Professional		
4	Special education, Kindergarten, Primary and Secondary Education Teacher		
5	Technician/Professional Assistants	Junior college, Senior high school or Vocational high school	Lower middle class
6	Clerks		
7	Service Personnel/Sales		
8	Skilled Manual Workers/Mechanical operators and Packers	Junior high school or below	Working class
9	Farmers, Fishermen, Agriculture workers		
10	Unskilled manual workers		

Appendix B Factor Analysis of the Items Selected

Rotated Component Matrix[a]			
	Component		
	1	2	3
Self-studying after school	**.735**	.099	.044
Online Chatting per week	**-.659**	.050	.053
Playing video games per week	**-.629**	-.054	.259
Making plans for reviewing what I learned in school	**.559**	.061	.240
Mother tells me to do things on schedule	.030	**.750**	.004
Father tells me to do things on schedule	-.044	**.738**	-.010
Cram School: English	.002	.066	**.806**
Cram School: Math	.166	.012	**.730**
Cram School: Chinese/History/Geography	-.029	-.073	**.700**
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 4 iterations.			

Appendix C Consent Form for Students

美國加州大學洛杉磯分校
(UNIVERSITY OF CALIFORNIA, LOS ANGELES)

青少年研究參與同意函

研究主題: 高中學生的時間運用與生活排序: 論階級力量對生活世界之鑿刻

您即將參與的研究，主要是由美國加州大學洛杉磯分校教育研究所博士候選人鄭英傑以及指導教授 Carlos Torres 所規劃與進行。本研究主要目的在於瞭解臺灣高中生平常如何使用在學校以及放學後的時間。您可以選擇是否參與本研究，此外，您的選擇並不會影響到您在學校的課業成績。

為何要進行本研究?
本研究目的在於瞭解您的學校學習、與父母的互動方式以及如何運用你的學校時間與放學後的時間。

如果我選擇參與本研究，我必須要做什麼?
在您選擇參與本研究之前，請與您的父母討論，以獲得您父母的許可。但是，即使您父母同意您參與本研究，您也可以選擇不參與。

如果您選擇參與這份研究，研究者將會選擇時間與您進行訪談，以了解您的個人背景以及學習經驗。

本研究將持續多久?

一次訪談約一個小時，而研究者將與您進行兩次訪談。

本研究是否會導致危險或其他令我不舒服的事情?

本研究並不會造成危險或令您不舒服的事情

如果我參與這份研究的話，我能獲得什麼?

您並不會直接從本研究獲得什麼利益，不過，本研究的結果將可能讓臺灣社會更瞭解臺灣高中生對時間運用的態度。

其他參與的替代方式

Appendix C Consent Form for Students (contd.)

並研究並不具有其他替代的參與方式

如果我參與本研究，我會獲得酬勞嗎?

您並不會獲得酬勞

如果我參與本研究，我所提供的資訊是否會被保密?

您於本研究中所提供的任何資訊都會受到謹慎的處理與保密，除了研究者之外，在沒有受到您的允許下，您的資訊並不會外流，此外，您所提供的資訊也僅僅做為教育研究之用。再者，您的真實名字也會以代號或假名呈現，以確保保密性原則。您也可以拒絕回答您不想回答的問題。此外，您也可以隨時檢查本研究於訪談中之錄音，並決定是否需要修改或是消除部分或全部的錄音內容，而在本研究結束之後，所有的錄音檔皆會被立即消除。

於何種情況下，研究者將會中斷我的研究參與?

在研究進行中，如果發現您並不適合本研究，研究者將會與您討論，並決定是否繼續參與。

如果我參與本研究，我的權益是什麼?

您可以隨時退出本研究，您的退出並不會導致您的任何損失。

如果我對這份研究有問題的話，我應該跟誰反應?

如果您對本研究有任何問題，請直接聯絡鄭英傑:
電話:0919608049
信箱: richardfala@yahoo.com.tw

如果您有進一步的問題的話，請聯絡下述機構:

Office of the Human Research Protection Program:
電話:1-310-825-7122
郵寄地址:11000 Kinross Avenue, Suite 102, Box 951694, Los Angeles, CA 90095-1694.

Appendix C Consent Form for Students (contd.)

研究參與者簽名

我瞭解上述對於這份研究的說明，而且我也同意參與這份研究。

參與者姓名

參與者簽名　　日期

研究者

該參與者同意參加本研究

研究者姓名　　聯絡電話

研究者簽名　　日期

Appendix D Consent Form for Parental Permission

美國加州大學洛杉磯分校
(UNIVERSITY OF CALIFORNIA, LOS ANGELES)

父母同意函

研究主題: 高中學生的時間運用與生活排序: 論階級力量對生活世界之鑿刻

您孩子即將參與的研究，主要是由美國加州大學洛杉磯分校教育研究所博士候選人鄭英傑以及指導教授 Carlos Torres 所規劃與進行。本研究主要目的在於瞭解臺灣高中生平常如何使用在學校以及放學後的時間。您的孩子可以選擇是否參與本研究，此外，您孩子的選擇並不會影響到在學校的課業成績。

為何要進行本研究?
本研究目的在於瞭解您孩子的學校學習、與父母的互動方式以及如何運用學校時間與放學後的時間。

如果我孩子選擇參與本研究，他/她必須要做什麼?

如果您孩子選擇參與這份研究，研究者將會選擇時間與您的孩子進行訪談，以了解個人背景以及學習經驗。

本研究將持續多久?

一次訪談約一個小時，而研究者將與您的孩子進行兩次訪談。

本研究是否會導致危險或其他不舒服的事情?

本研究並不會造成危險或不舒服的事情

如果我的孩子參與這份研究的話，我的孩子能獲得什麼?

您的孩子並不會直接從本研究獲得什麼利益，不過，本研究的結果將可能讓臺灣社會更瞭解臺灣高中生對時間運用的態度。

其他參與的替代方式

並研究並不具有其他替代的參與方式

Appendix D Consent Form for Parental Permission (contd.)

如果我的孩子參與本研究，我的孩子會獲得酬勞嗎?

您的孩子並不會獲得酬勞

如果我的孩子參與本研究，我孩子所提供的資訊是否會被保密?

您孩子於本研究中所提供的任何資訊都會受到謹慎的處理與保密，除了研究者之外，在沒有受到您的允許下，您孩子的資訊並不會外流，此外，您孩子所提供的資訊也僅僅做為教育研究之用。再者，您孩子的真實名字也會以代號或假名呈現，以確保保密性原則。您孩子也可以拒絕回答不想回答的問題。此外，您的孩子也可以隨時檢查本研究於訪談中之錄音，並決定是否需要修改或是消除部分或全部的錄音內容，而在本研究結束之後，所有的錄音檔皆會被立即消除。

於何種情況下，研究者將會中斷我孩子的研究參與?

在研究進行中，如果發現您的孩子並不適合本研究，研究者將會與您討論，並決定是否繼續參與。

如果我的孩子參與本研究，我孩子的權益是什麼?

您孩子可以隨時退出本研究，您孩子的退出並不會導致您的任何損失。

如果我對這份研究有問題的話，我應該跟誰反應?

如果您對本研究有任何問題，請直接聯絡鄭英傑:
電話:0919608049
信箱: richardfala@yahoo.com.tw

如果您有進一步的問題的話，請聯絡下述機構:

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郵寄地址:11000 Kinross Avenue, Suite 102, Box 951694, Los Angeles, CA 90095-1694.

Appendix D Consent Form for Parental Permission (contd.)

父母同意函簽名

孩子姓名

父母或監護人姓名

父母或監護人簽名　　日期

Appendix E Research Participants' Backgrounds

Name	Parents Occupation Level	Parents Education Level	Social Class
Zon	F: 9 M: 9	F: 1 M: 1	Working class
Shen	F: 4 M: 3	F: 5 M: 4	Upper-middle class
Jieh	F: 8 M: 8	F: 1 M: 1	Working class
Ping	F: 1 M: 1	F: 4 M: 2	Upper-middle class
Tan	F: 8 M: 8	F: 1 M: 1	Working class
Min	F: 5 M: Stay-at-home mom	F: 3 M: 3	Lower-middle class
Yang	F: 8 M: Stay-at-home mom	F: 1 M: 1	Working class
Suan	F: 8 M: 8	F: 1 M: 1	Working class
Sang	F: 3 M: Stay-at-home mom	F: 5 M: 2	Upper-middle class
Li	F: 1 M: Stay-at-home mom	F: 5 M: 2	Upper-middle class
Tzeng	F: 5 M: 6	F: 2 M: 2	Lower-middle class
Wim	F: 1 M: 3	F: 5 M: 5	Upper-middle class
Hang	F: 1 M: Stay-at-home mom	F: 6 M: 4	Upper-middle class
Wu	F: 8 M: 8	F: 1 M: 1	Working class
Mei	F: 1 M: 3	F: 5 M: 4	Upper-middle class
Ting	F: 3 M: 1	F: 5 M: 5	Upper-middle class
Chou	F: 3 M: 1	F: 3 M: 4	Upper-middle class
Mong	F: 8 M: Stay-at-home mom	F: 1 M: 1	Working class

Appendix E Research Participants' Backgrounds (contd.)

Fu	F: 8 M: 9	F: 1 M: 1	Working class
Zu	F: 8 M: 8	F: 1 M:1	Working class
Bo	F: 8 M: Stay-at-home mom	F:1 M: 1	Working class
Tzu	F: 3 M: 7	F: 5 M: 1	Upper-middle class
Lice	F: 5 M: Stay-at-home mom	F: 3 M: 3	Lower-middle class
Janet	F: 5 M: 6	F: 4 M: 4	Lower-middle class
Tin	F: 8 M: 8	F: 1 M: 1	Working class
Wan	F: 8 M: Stay-at-home mom	F: 1 M: 1	Working class
Ney	F: 10 M: 10	F: 1 M: 1	Working class
Peng	F: 10 M: Stay-at-home mom	F: 1 M: 1	Working class
Gon	F: 8 M: 8	F: 1 M: 1	Working class
Chi	F: 2 M: 1	F: 5 M: 2	Upper-middle class
Hui	F: 1 M: 1	F: 1 M: 1	Upper-middle class
Huang	F: 4 M: 4	F: 6 M: 5	Upper-middle class

Appendix F Guideline for Two Rounds of Interview

First round of interview	
Use of Time	1. In-School Time (1) How are your days in school? (2) How do you feel about the formal time table in school? (3) Do you have your own time in school? 2. After-School Time (1) What do you do in your after-school time? (2) Do you go to cram schools? How many subjects? (3) Could you arrange your after-school time? (4) Why do you do that kind of arrangement?
Peer Interaction	(1) Who is your best friend in the class? (2) Do you have friends in other classes or schools? (3) How do you spend your time with your friends?
Second round of interview	
Family life	(1) What do your parents do at home? (2) Would they discuss with you about your future? (3) Would they ask you to study? (4) Would they care about your studying?

Appendix G Timeline

Date	Schedule
08/2012 - 09/2012	1. Quantitative part: · Review the TEPS dataset 2. Qualitative part (1) Select a proper research site (2) Contact the gatekeeper and introduce the research
10/2012 – 03/2013	Qualitative part: Interviews · First round of interviews: 10/2012 – 12/2012 · Second round of interviews: 01/2013 – 03/2013
10/2012 – 03/2013	Quantitative part · Select the possible items for analysis
10/2012 – 06/2013	Organize, write and revise the dissertation

Appendix H The Coefficients among the Variables

Correlations							
		Gender	Social Class	Subjects Acquired in Cram Schools	Use of After-School Time	Parents' Disciplinary Styles	Students' Academic Performance
Gender	Pearson Correlation	1					
Social Class	Pearson Correlation	\	1				
Subjects Acquired in Cram Schools	Pearson Correlation	.016	.246**	1			
Use of After-School Time	Pearson Correlation	.250**	.165**	.115**	1		
Parents' Disciplinary Styles	Pearson Correlation	-.087*	-.041	.011	-.030	1	
Students' Academic Performance	Pearson Correlation	.124**	.171**	.171**	.228**	-.048	1
*p＜.05; **p＜.01							

Appendix I The Official School Timetable of DASH Class

Time			Mon.	Tue.	Wed.	Thur.	Fri.
Preparation Time							
Morning Class	1	08:10-09:00	Math	English	Home Economics	History	English
	2	09:10-10:00	Geography	Citizenship Education	Technology	Citizenship Education	Math
	3	10:10-11:00	English	English	Chinese	Chinese	Math
	4	11:10-12:00	Citizenship Education	Citizenship Education	Math	History	Geography
Lunch Break / Nap Time							
Afternoon Class	5	13:00-13:50	Chinese	Geography	Class Meeting	Art	History
	6	14:00-14:50	PE	Chinese	Club Activities	Geography	Chinese
	7	15:05:15:55	Chinese	Math	History	English	PE
	8	16:00-16:50	Math	History	English	Geography	Chinese
Dinner Time/ Nap time							
Reading Time	9	18:30-19:20	Self Studying				
	10	19:30:21:00	Self Studying				

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