

Homework and Students' Academic Achievement at the Chinese National Type Primary Schools

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Abstract

School homework has been synonymous with students' life in Chinese national type primary schools in Malaysia. Although many press reports have claimed that students were burdened with too much homework, it continues to be a common practice in national type schools that is believed to contribute to academic achievement. This study was conducted to identify the relationship between the burden of school homework and academic achievement among the students in Chinese national-type Primary School in the state of Perak, Malaysia. The study applied the homework conceptual framework of Cooper (1985) and Taback (2005). A total of 384 students were chosen as the sample in this study. Variable of gender and location (urban/rural areas) showed significant difference in students' academic achievement. Female students from rural areas showed a higher mean score than males from urban areas. However, the parents' level of education and family income showed no significant differences. The coefficient correlation analysis showed there was significant relationship between the students' interests, number of pages and frequency of Chinese school homework to be completed each day with students' academic achievement. Therefore, the teachers should give appropriate and relevant homework to primary school students to achieve good academic performance.

Keywords: homework, academic achievement, Chinese national-type primary schools, Malaysia

1.1 Introduction

Homework can be defined as any task assigned by school teachers intended for students to carry out during nonschool hours (cf., Cooper 1989). School homework is an important part of the daily tasks of children who are studying. Homework is an issue that may create strong controversy from time to time (Conner, 2004). The impact of homework on students is an issue that is often subject to dispute and conflict in the educational arena (Canadian Council on Learning, 2009) and a burning issue for the school as well (Nancy, 2009).

According to Etta (2000), no one can explain the real purpose of burdening the students with school homework. The school authority says that students are burdened with homework based on the request of parents, while parents argue that homework is given at the discretion of the school. Such controversy always arises and persists to this day.

Xu (2005) stated that school homework is an appropriate and relevant topic to be studied because homework may educate students beyond the curriculum and teach them a lot of things that cannot be learned from textbooks. For example, students who complete their homework consistently understand the importance of managing time and effort in learning properly. They

also have a greater commitment to their own learning process. Hartlep (2009) also noted that educators most agree that these features help students to better themselves. The amount of time students spend on homework do each week will encourage them to become more disciplined and responsible for their own learning. This phenomenon will become increasingly important in the 21st century of information explosion (Andrew & Nicholas, 2013). In short, school homework provides positive values in many areas, both in terms of academic and non-academic aspects.

Appropriate distribution of amount of homework by teachers will help students maintain and develop their understanding towards learning. However, homework is not the only “panacea” or “multipurpose medicine” in the learning process, but more akin to a very helpful tool in the educational process; hence educators should be more sensitive in its use (Hartlep, 2009).

1.2 Statement of Problem

School homework has become an issue of research and media attention in jurisdictions all over the world. In the United Kingdom, the news media follow this issue closely and new research continues to be conducted (Hallam, 2004). In Australia, both governments and independent researchers have analyzed homework (Government of Queensland, 2004; Alanne and Macgregor, 2007). In the United States, researchers (Cooper, 1989; Cooper et al., 2006), governments (United States Department of Education, 2007), and advocates (Kohn, 2006) all pronounce upon the issue. In Canada, there has been substantial media attention over the past two years, and new research has been published (Canadian Council on Learning, 2007; Cameron and Bartel, 2008). Clearly, homework is an important issue both inside and outside of academia.

Although research in the area of homework has a long history, the role played by homework and its effectiveness in helping to improve students’ academic achievement is only partially determined (Trautwein & Koller, 2003). Homework is generally believed to be an important element in the learning process, but some studies conducted have yet to confirm any existing relationship between homework and academic achievement beyond doubt (Dettmers, Trautwein, & Ludtke 2009). This shows that there is controversy in the findings among researchers.

Some of the findings show a positive effect of homework on student academic achievement (Meyer, 2005; News and Communication, 2006; Cooper, 2006; McMullen 2007; Nicholas 2008; Kitsantas & Zimmeman, 2009; Maartje & Wilfried, 2013), while other studies show a negative impact of homework on the students (Bennett & Kalish, 2006; Alanne & MacGregor, 2007; Canadian Council on Learning, 2009). For instance a University of Missouri study found high school students benefit tremendously from homework. In secondary school, the results were not as strong, but homework was still found to be beneficial. But at the primary school level, the same study found homework had no effect on students (Conroy, 2009). Studies by Maartje and Wilfried (2013) appeared that the social context in which the assignment was completed and the perceived meaningfulness of the homework assignment helped to trigger student participation in class.

Disadvantages of homework include lack of time for students to carry out other activities, confusion and loss of interest in learning (Alanne & MacGregor, 2007; Canadian Council on Learning, 2009). The National Assessment of Educational Progress reported that homework is not a strategy that works for all children. Because of its possible negative effects of decreasing student motivation and interest, thereby indirectly impairing performance, homework should be assigned judiciously and moderately. Heavy homework loads should not be used as a main

strategy for improving home-school relations or student achievement (American Teacher, 2009).

From the above discussion, we can conclude that there are two main findings of research on homework. First is that homework increases academic achievement; and without excessive homework, our students' test scores will continue to lag internationally. On the second point, research points out that students in many countries, including Japan and Finland, are assigned less homework but still outperform U.S. students in international comparisons (Bennett and Kalish, 2006).

In Malaysia, academic achievement is an issue that is always emphasized by parents, educators, and students themselves. One of the key ways to improve academic achievement is said to be through school homework. Thus, homework has been used to help students practice skills they learned in the classroom around the world to this day (Collier, 2007).

The Education Department and Committee on Home-School Cooperation (1994) said that the Chinese school students usually face strong pressure in the pursuit of academic achievement. School homework contains elements of drill and training; it is regarded as a very important tool to assist and strengthen the learning process. Hence, it is not surprising that parents in Hong Kong support the use of homework as an effective strategy in their children's learning process (Tam & Chan, 2010). Therefore, the students are always burdened by piles of school homework.

Similar conditions are found in China that is developing as a modern country in the face of stiff global competition. The burden of homework has become an indication as to how diligent and successful a student is in being able to finish within the prescribed time and gain good result. According to a new survey conducted by the Chinese Youth and Children Research Center (CYCRC), increasing numbers of children in large cities across the country are experiencing joyless childhoods. The CYCRC surveyed 2,500 primary and secondary school students across the country in Beijing, Shanghai, Guangzhou, Changchun, Chengdu and Lanzhou. On average, China's children spend 8.6 hours a day at school, with some spending 12 hours a day in the classroom. The survey also claimed that the majority of children spend longer hours at school than their parents spend at work. Almost all the students involved in the survey said they had to do homework, besides revising and preparing for classes after school. Chinese students are put under ever-increasing pressure by their parents to study hard due to the country's highly competitive market for university places and jobs. Study pressure has led to an increase in stress, psychological problems and even tragedy (Xinhua, 13 May, 2007).

Similarly, school homework has been synonymous with student life in Malaysia. Homework has taken over most students' lives in the primary, secondary or upper secondary education. Many press reports claim that students were burdened with too much homework, but homework continues to be a common practice in today's educational arena; as evidenced, homework contributes to increasing the students' academic achievement (John, 2008).

Using workbooks are associated with the teachers giving homework to students. An increasing number of workbooks are being used; this means more and more homework must be completed by the students. In relation to this issue, Arshad, A.R (1990), as former Director General of Education Malaysia has issued a circular which read:

Use of workbooks and additional exercise book has increased in schools to raise the financial burden to parents. In addition, the uncontrolled use of workbooks by teachers has caused a negative reaction from the public toward the Ministry of Education that has thrown accusations badly on the Principal/Headmaster and teachers in the mass media. With the widespread use of workbooks and additional books during the lesson, the textbook is not fully utilized as a teaching even the Ministry of Education has spent a substantial financial provision for the supply of textbooks to students across the country.

(MOE: KP.BT.8772/1990/SP / (22), 5 Jan 1990)

This showed the Malaysian Ministry of Education has viewed seriously the issue of homework for the past two decades. The use of workbooks or exercise books so widely out of control in the process of teaching and learning is not encouraged and is a burden to students and parents as well. There is no doubt that use of workbooks in the teaching and learning process in schools has become a trend in education today. Educators tend to use the workbook as a major teaching resource in the teaching sessions and neglect the textbook although it is more robust in terms of content supplied by the Ministry of Education Malaysia. This situation must be corrected as soon as possible to erase the negative view of society.

Too many studies related to school homework have been conducted in Western countries such as the United States, Australia, Canada, Norway and others. However, current research still leaves many questions unanswered in relation to the effectiveness of school homework. The arguments related to homework are still generating ongoing interest among researchers, especially in an era of increasing emphasis on student academic achievement (Hartlep, 2009). Cooper et al. (2006), for instance, demonstrated a positive relationship between homework of students and their school results in terms of both class grades and standardized test scores. However this positive relationship was found for multiple subjects, and for secondary school students only.

Therefore this study aimed at examining the differences that exist between social background and academic achievement of students in Chinese national type primary schools. In addition, this study will investigate the relationship between time spent, number and frequency of homework, and interests of students with their academic achievement.

1.3 Research Questions

This study was designed to answer the following research questions:

1 Is there any significant difference between the academic achievement of students in Chinese national type primary schools with the below social backgrounds?

- a. gender
- b. location
- c. parents' level of education
- d. family income

2. Is there any significant relationship between:
- a. time spent by the students to complete homework
 - b. the number and frequency of homework
 - c. the interests of students in homework
- with academic achievement in Chinese national type primary schools?

2.1 Research Design

This study uses a survey research design for survey research is one of the most popular methods of non-experimental research. According to Chua (2006), extensive use of this method can be used to express a variety of questions, such as issues and problems in different perspectives. Survey research can be done through the provision of questionnaires or interviews, or both. We have limited the sampling to the North Kinta District and Manjung District in Perak only in accordance with the purposive sampling method because North Kinta district meets the characteristics of a city while Manjung District has enough rural National Type Chinese Schools to run the sampling process. Researchers have conducted stratified random sampling procedures to determine the target respondents of students at Level 2 (Year 4, 5, and 6). This means that the number of respondents selected students in each school was targeted 24 people and the total for all of the 16 schools contributed to the total of 384 students.

2.2 Conceptual Framework

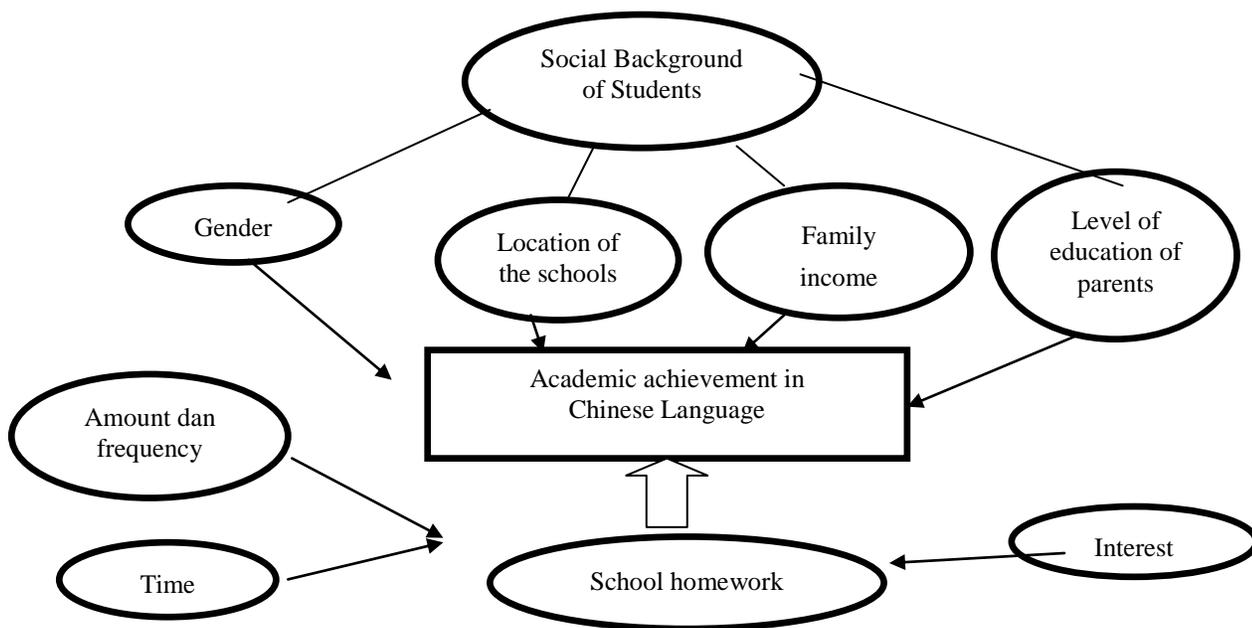


Figure 1. Conceptual Framework of Study on Relationship of School Homework with Chinese national type primary schools Academic Achievement

The conceptual framework was built based on the study of Cooper (1989), titled “Synthesis of

Research on Homework: Grade level has a dramatic influence on homework's effectiveness.” In the report of the study, Cooper has produced A Model of Factors Influencing the Effect of Homework. In addition, a study by Taback (2005) titled “The relationship between student and parent perceptions of homework and academic achievement” was referred to build this conceptual framework.

In this conceptual framework, the number and frequency of homework is characterized by subjective factors of the individual. The amount of homework at a rate of sufficient or too burdensome is a subjective matter and depends on the ability of students. The time used to complete homework is closely related to student ability also. Given the same amount of school homework, some students can finish their homework in a short time, while others need more time.

Cooper (1989, 2001) has carried out literature review on 180 studies related to school homework. Cooper (1989) found that factors such as number, frequency, and time to complete the school homework affect the academic achievement among students. Taback (2005) found the perception of parents and students, interests and socio-economic background such as parents' level of education and family income also contributed to student academic achievement. He also found no significant difference between gender and academic achievement. These findings were equivalent to Cooper (1989) that on the whole, there was no significant relationship between gender and academic achievement among students. However, for clarity, in this study, we still investigate the relationship between gender and academic achievement in the Chinese National Type Primary Schools in Perak, Malaysia. Cooper (1989, 1991, 2006) and Taback (2005) conducted their research in the United States where the culture of life and the school environment is far different from Malaysia. Besides that, their studies focused on the students in secondary schools only, and not primary schools. Therefore, the researchers wanted to identify whether the same factors such as the number, frequency, times spent to complete school homework, and students' social backgrounds affect their academic achievement in Chinese language subjects in the Chinese National Type Primary School in Perak, Malaysia.

2.3 Research Instrument

The research instrument used in this study is the survey questionnaire. To build the instruments of this study, "Model of factors affecting the impact of school homework" created by Cooper (1989) and Taback (2005) was referred. The Student Survey questionnaire consists of two parts. Part A requests the respondents' demographic particulars. Part B consists of three divisions; the first division containing 10 items of questions related to the interests of students on school homework; the second consists of 10 items related to the effectiveness of homework to their study; the third division contains 10 items of questions raised in relation to aid students in preparing their homework. This means the set of questionnaire contains 30 questions in all. Cronbach alpha value of the questionnaire was .88. This means that the questionnaire has a relatively high level of consistency and is appropriate for collecting the necessary data in this study.

2.4 Respondents' Profile

Table 1: *Profile of Respondents (N=384)*

Demographic	Variable	Frequency	%
Gender	Female	212	55.2
	Male	172	44.8
Location	Rural	192	50.0
	Urban	192	50.0
Standard	4	128	33.3
	5	128	33.3
	6	128	33.3
Father's level of education	Primary school	60	15.6
	Secondary school	269	70.1
	Certificate	23	6.0
	Degree	32	8.3
Mother's level of education	Primary school	46	12.0
	Secondary school	284	74.0
	Certificate	25	6.5
	Degree	29	7.6
Family income	< RM2000	190	49.5
	RM2001 – RM 4000	145	37.8
	RM4001 and higher	49	12.8
Frequency of homework	None	1	0.3
	1 type	13	3.4
	2 types	56	14.6
	3 types	212	55.2
	4 types	37	9.6
	More than 4 types	65	16.9
Pages of homework given	None	1	0.3
	1 – 2 pages	102	26.6
	3 – 4 pages	168	43.8
	5 – 6 pages	81	21.1
	7 – 8 pages	23	6.0
	More than 8 pages	9	2.3
Time spent to complete the homework	None	6	1.6
	Less than 60 minutes	142	37.0
	61 – 120 minutes	205	53.4
	121minutes – 180 minutes	18	4.7
	More than 180 minutes	13	3.4

A total of 384 respondents among students who were studying at Level 2 were selected to answer the questionnaires. Respondents in this study consisted of 212 female and 172 male. They were distributed according to location of the schools (192 students from rural schools and 192 students from urban schools) and the year of their study (128 respondents Students of Year 4, 5 and 6 respectively). The mode of distribution of respondent parents' level of education were at secondary schools, respectively were 269 (70.1%) for fathers and 284 (74.0%) for mothers.

Viewed in terms of family income distribution, a total of 190 (49.5%) of the respondents' family income was less than RM2, 000. A total of 145 (37.8%) of the students came from families with income in the range of RM 2001 - RM 4000, while 49 (12.8%) students were from families with income levels of RM 4001 and above. In other words, nearly half of the student respondents in this study came from low income families.

A total of 102 (26.6%) respondents were given one to two pages Chinese homework daily and a total of 168 respondents (43.8%) have completed three to four pages of Chinese homework every day. Meanwhile around 81 people (21.1%) respondents are given five to six pages of Chinese homework every day. This means three to four pages of homework was the most commonly given by Chinese teachers in this study.

More than half of respondents (n = 212 or 55.2%) stated that they were provided an average of three different types of homework by Chinese teachers each day. A total of 65 (16.9%) respondents were given more than four types of Chinese homework daily. This means three to four types of homework in Chinese subjects has created a culture of the frequency of homework given by Chinese national type primary school teachers.

In terms of time spent to complete the homework, a total of 53.4% (N = 205) students used average time of 61 minutes to 120 minutes per day to do their Chinese homework. While 37.0% (N = 142) respondents spent less than 60 minutes per day on Chinese homework. In other words, the majority of students (87.4%) spent between below 60 minutes to 120 minutes to complete homework each day.

3.1 Findings

Research question 1: Is there any significant difference between academic achievement of students in Chinese national type primary schools and social background?

3.1.1 Gender

Table 2:

Analysis of T-test between Academic Achievement with Gender of Students

Gender	Mean	SD	t	df	p	η
Female (n=212)	70.82	15.74	3.49	311.12	.00	.04
Male (n=172)	64.09	20.90				

Table 2 shows academic achievement of Chinese female student respondents (mean = 70.82,

$SD = 15.74$) is higher than the academic achievement of Chinese male students (mean = 64.89, $SD = 20.90$). In addition, t -test also showed that there was significant difference in the academic performance of Chinese respondents between male students and female students with $t = 3.49$, $p < .05$, $\eta = 0.04$. However, gender contributes a small effect size toward students' academic achievement. Thus, it can be concluded that the female students scored higher than male students in the Chinese national type primary schools as a whole.

3.1.2 School location

Table 3:

Analysis of t-test between Academic Achievement with Location of the Schools

Location	Mean	SD	t	df	p	η
Urban (n=192)	65.31	18.75	2.66	382	.008	.27
Rural (n=192)	70.30	17.98				

Table 3 shows the t -test results; there are significant differences in academic achievement between respondents of urban schools and respondents of rural Chinese national type primary schools with $t = 2.66$, $p < .05$, $\eta = .27$. However, location of the schools contribute small effect size towards students' academic achievement. Students from rural area recorded higher mean (Mean = 70.30, $SD = 17.98$) than students from urban schools (Mean = 65.31, $SD = 18.75$) in the Chinese national type primary schools. In other words, rural students scored better than urban students in this study.

3.1.3 Parents' level of education

Table 4:

Analysis of One Way Anova comparing Academic Achievement of Students according to their Fathers' Level of education

Variable	Variation	Sum of square	df	Mean Square	F	Sig.
Academic achievement	Between groups	468.40	3	156.13		
	Within groups	130820.80	380	344.26	.45	.70
	Total	131289.20	383			

Table 5:

Analysis of One Way Anova comparing Academic Achievement of Students according to their Mothers' Level of education

Variable	Variation	Sum of square	df	Mean Square	F	Sig.
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	Between groups	1679.87	3	559.96		
Academic achievement	Within groups	129609.30	380	341.08	1.64	.18
	Total	131289.20	383			

ANOVA test in Table 4 and Table 5 show there were no significant differences (father: $F(3, 380) = .45, p > .05$; mother: $F(3, 380) = 1.64, p > .05$) between and within students for fathers' and mothers' level of education. This indicates that there were no significant differences in mean score of academic achievement among students according to the level of parental education. This also means that the academic achievement of students in Chinese national type primary schools was not influenced by their parents' level of education.

3.1.4. Family income

Table 6:

Analysis of One Way ANOVA Comparing the Academic Achievement of Students according to their Family Income

Variable	Variation	Sum of square	df	Mean Square	F	Sig.
	Between groups	295.42	2	147.71		
Academic achievement	Within groups	130993.75	381	343.82	.43	.65
	Total	131289.20	383			

Based on Table 6, one-way ANOVA tests showed there were no significant different between and within groups of students' academic achievement and family income with $F(2, 381) = .43, p > .05$. This indicates that there was no significant difference in academic achievement among students in Chinese national type primary schools with their family income. In other word, the academic achievement of students in Chinese national type primary schools was not influenced by their family income.

3.2 Research Question 2: Relationship between time spent by the students to complete their homework, number of pages, frequency of homework, students' interest and academic achievement

Table 7: *Correlation between Time Spent, Numbers of Pages, Frequency of Homework, Students' Interest and Academic Achievement (N=384)*

Dependant variables	Correlation	Academic Achievement
Time spent to complete	Pearson Correlation Sig. (2-tailed)	.08 .12
Numbers of pages	Pearson Correlation Sig. (2-tailed)	.25** .00
Frequency of homework	Pearson Correlation Sig. (2-tailed)	.20** .00
Students' interest	Pearson Correlation Sig. (2-tailed)	.23** .00

By using correlation Pearson- r , the results show that there was no significant correlation ($r = .08$, $p > .05$) between the time spent by the students to complete their homework and academic achievement in Chinese national type primary schools. In other words, academic achievement in Chinese national type primary schools is not associated with the total time spent by students in their homework.

However, Pearson test shows that there was a significant correlation ($r = .25$, $p < .05$) between the number of pages of homework to be completed each day and students' academic achievement in Chinese national type primary schools. It can be concluded that the more number of pages of homework completed by the students, the better the academic achievement gained in Chinese national type primary schools.

Besides that, there was a significant correlation ($r = .20$, $p < .05$) between the frequency of homework completed by students and their academic achievement in Chinese national type primary schools. This result states that the more types of homework given by Chinese teachers each day, the better academic achievement of students they will get.

Correlation test also shows that that r value between interest of the students in doing homework and their academic achievement was significant ($r = .23$, $p < .05$). From this result we can concluded that the more interested students are in doing their homework, the higher their academic achievement will be.

4.1 Discussion

The findings of this study shown significant differences existed between the female and male students in terms of academic achievement in which female students acquire higher academic achievement than male students. In other words, these findings showed female students are better than the male respondents in terms of academic performance. This result is contrary to the findings of the study done by Taback (2005) that there is no significant difference between gender

and academic achievement. This happened because the local culture and environment is very different to the situation in the United States. In Malaysia, homework is more concerned with exercises in the form of knowledge and understanding, and lack of creative questions. Such exercises are rote and more popular among female students.

Taback (2005) revealed that family socioeconomic status factors have a great influence on student academic achievement. Students from families of higher socio-economic backgrounds will acquire higher academic achievement compared with those from a lower socioeconomic family background. In the study, Taback (2005) also stated that the students who were ineligible for lunch provision (families from higher socioeconomic status) will acquire above average academic achievement. Similarly, Mohd Noor (2005) in his study showed that children from disadvantaged families have lower academic achievement compared with children from more fortunate families. He also stated that the differences in level of academic achievement can be classified according to the socioeconomic background of each student. This perspective sees families as providing a variety of resources to children that can be instrumental in enhancing educational attainment (Sandefur et al. 2006).

Qualitative study by Tam and Chan (2010) examines Hong Kong Chinese parents' perceptions and experiences of involving in their primary school children's homework process. It draws upon the theoretical frameworks of family capital theory and family resource management perspective to explicate the role of parents in enhancing children's homework outcomes. Information was collected through individual and focus-group interviews with 52 parents who had at least one child attending primary school. Findings of the study found that the school practices of homework serve to strengthen between family social capital and resource management, thus creating potential impact on children's academic achievement. Qualitative study by Kim and Fong (2013) also illustrates how parents with educational attainments far lower than the educational attainments they hope their children will attain can still positively influence their children's education.

Nevertheless, we found no significant differences in academic achievement in Chinese National type primary schools among respondents according to family income level. This also means that for the student respondents in this study, whether they came from either high or low income families, their academic achievement in school is quite comparable and not significantly different. Thus, our findings differ from findings of studies conducted by Taback (2005), Mohd Noor (2005) and Joshua et.al (2011).

The results of this study also show that rural students acquire higher academic achievement compared to respondents from urban schools. This situation is contrary to our expectations; those staying in urban areas are equipped with all the proper sources of knowledge and are expected to acquire higher academic achievement, but our findings show the opposite result.

Many factors may contribute to the above results in this study. Students' academic achievement in this study was based on the average total marks obtained by the students in all subjects at the end of 2013. Due to the examination papers given to students in this study were not standardized, the difficulty level of question papers used by the different schools was different. Probably also the difficulty level of the examination paper of rural students was lower

than for the urban school respondents. Thus, rural student respondents scored higher compared to urban student respondents.

Despite the increase in academic achievement among students with the educational level of respondents' parents in this study, the increase was not significant. Thus this study found no existence of significant differences in academic achievement among students according to the level of parental education.

In addition, the results of this study found no significant correlation exists between academic achievement and the time spent by students to complete their school homework. It also means that more and more time spent by the students to complete their homework will not necessarily lead to higher academic achievement. The result of this study supports the results by John (2008) and Lim (2008). Their findings show that poor students need more time to complete their school homework, whereas students of higher academic achievement given the same homework by their teachers, but they may do it in a shorter time because they are not facing trouble completing their homework. In other words, the weaker students will spend a longer time to complete school homework compared to students of higher academic achievement although the amount of school homework given to them is the same.

Various findings have been concluded in the west when they undertook studies on the time spent to complete their homework its relationship with academic achievement. Among the studies conducted there were both positive and negative correlation between time spent to complete homework and academic achievement. The results of this study are parallel with Zammit, Routitsky, and Greenwood (2002); in their international comparison study they found that only minor changes and improvements exist in mathematics and science subjects with the time used by the students to complete both subjects. This also means no significant relationship exists between time spent to complete homework and academic achievement in mathematics and science.

A study by Cooper (2006) showed a positive correlation exists between the time spent to complete homework and academic achievement, and this relationship will only be consistent binding to the "Law of 10 minutes". In fact, the majority (53.4%) students from Level 2 (Year 4, 5, and 6) in this study required 61 minutes to 120 minutes to complete their homework in school daily. What is proposed by Cooper (2006) in the 'Law of 10 minutes' is the amount of time proposed for school homework for all subjects each day. According to Cooper (2006), the amount of time that should be used by a Year 4, 5, and 6 student to complete homework each day for all subjects is 40 minutes, 50 minutes, and 60 minutes respectively. If the time spent to complete homework exceeds this limit, the effectiveness of homework in improving academic achievement will disappear. Thus, this study showed no significant relationship between times spent to complete homework because of the time spent by the students to complete homework has far exceeded the limits proposed by Cooper (2006).

In addition, study done by McMullen (2011) included a series of covariates that are important determinants of student homework time, including the amount of homework that was assigned by the students teachers, the student's locus of control, the average of the student's peers' test scores, parent's education, parent's income, and whether the household owns more

than 50 books. He also found that female students, low income students, and low achieving students in particular increase their homework time in response to a higher minimum wage, while male students are more responsive to changes in the unemployment rate. This means that how the secondary school students making decisions about homework will affect their respond to education and labor market incentives.

In this study, there is no significant relationship between the numbers of pages of homework to be completed each day with students' academic achievement in schools. Similarly, there is significant relationship between the frequency of homework and academic achievement of students in Chinese National type primary schools. This result states that the more the frequency and type of homework given by Chinese school teachers each day, the better academic achievement of students will gain. These findings are consistent with the findings of Cooper (1991, 2006). Based on multilevel analyses, Trautwein (2007) also concluded that completing homework has a positive effect on students' achievements in terms of the frequency of working on homework assignments.

Besides that, Kitsantas and Zimmerman (2009) also found that homework activities are also expected to enhance students' perceived responsibility for academic outcomes, and this belief in turn is expected to predict students' academic achievement. In this regards, study by Joshua et.al (2011) evaluated the homework functioning of middle-school students with Attention-deficit/hyperactivity disorder (ADHD) to determine what aspects are most predictive of school grades and the best source (e.g., parents or teachers) for obtaining this information. Students with ADHD in grades 5–8 (N = 57) and their parents and teachers completed the Children's Organization Skills Scales (COSS) to measure materials organization, planning, and time management, and parents completed the Homework Problems Checklist (HPC) to examine homework completion and homework materials management behaviors. Regression analyses indicated that both parent- and teacher-reported problems with materials management, were significant predictors of student grades or an important component of the academic performance of students. This shown the important role played by teachers and parents in manage the homework of students.

Therefore, it is suggested that the homework given by teachers, particularly in Chinese National Type Primary Schools should take into account aspects such as gender, interests, number of pages and frequency of homework, and time spent to complete the homework. In other words, while Chinese school teachers must give homework to their students, they should consider questions such as exercises that should cut across the gender factor, are interesting to the students, not too many pages (not more than 4 pages) and not too many types (not more than three types), and they need to ensure students can complete the homework within 60 minutes daily. Any homework exceeding the capacity of the above factors is considered a burden to the students will create a contrary effect and result in poor academic achievement among them. Besides that, school teachers should assign the homework creatively to attract student interest especially male students as suggested by Diersen (2000) to optimize the effectiveness of homework on academic achievement.

5.1 Conclusion

Homework assigned by teachers in Chinese National-Type Primary Schools in Malaysia and its correlation with the students' academic achievement has always been a hot issue of debate. The results of this study clearly show that gender and school location (urban/ rural areas) showed significant differences in academic achievement of students from Chinese National-Type Primary schools that female students in rural areas obtain better academic results than male students in urban areas. The correlation analysis showed significant correlation exists between the interests, number of pages and frequency of Chinese school homework to be completed each day with students' academic achievement. Therefore, Chinese National-Type Primary Schools teachers need to identify the factors in assigning the appropriate, relevant, homework and take advantage of students in achieving academic excellence. Thus, homework will be part of a fun and enjoyable in their school life, not a burden to the students in the teaching and learning process. This is applicable to other types of school to optimize the benefit of homework to students as well.

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