



# **Mathematics Teacher's Job Satisfaction in Middle School in Jeddah, Saudi Arabia**

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## **Abstract**

This research examines Mathematics teachers' job satisfaction levels in the four dimensions of job satisfaction (administrative support, workplace atmosphere, teaching efficacy and students' behavior) and also examines teachers' belief about whether their job satisfaction influence students' achievements in Middle schools in Jeddah, Saudi Arabia.

The study employed a concurrent mixed methods design in the form of a web based survey that involves structured questions of each dimension using a Likert scale and followed by one open-ended question. The data generated were both quantitative and qualitative. The study found that according to teachers rating, they were satisfied with: (1) teaching efficacy, (2) students' behavior, (3) administration support, (4) workplace atmosphere respectively.

The study then found a relationship between teachers' levels of job satisfaction and students' achievement in Mathematics. According to teachers' perceptions, the more teachers are satisfied the better teachers will perform in the classroom and the lower levels of satisfaction teachers feel in their jobs, the lower the performance they will present in the classroom. The explanations that teachers provided were coded into three major themes: teachers' salary and rights, maternity leave and female rights, and the lack of teaching resources.

## Declaration

*All Students should reproduce this section in their thesis verbatim*

This thesis contains no material which has been accepted for the award of any other degree or diploma at any university or equivalent institution and that, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

Signature: .....

Print Name: .....

Date: .....

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I praise Allah, the almighty for providing me this opportunity and granting me the capability to proceed successfully.

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## **Chapter One: Introduction**

### **Overview**

This chapter explains the research problem and the reasons behind conducting my research study. The significance of the study is explained then the research aims and questions are identified. Finally, I explain the limitations of the study.

### **1.1 The Research Problem and Rationales**

In Saudi Arabia, students' achievements in Trends in International Mathematics and Science (TIMSS) studies are very low. Studies from 2003, 2007, and 2011 indicated poor academic achievement in Mathematics among grades four and eight. However, results of 2015 revealed that Saudi Arabia achieved very lower results than before. They were the last in Mathematics achievement. The reasons behind the low levels of achievement in Mathematics among Saudi Middle school students is under researched and rarely investigated. My research examines Mathematics teachers' job satisfaction levels in the four dimensions of job satisfaction (administrative support, workplace atmosphere, teaching efficacy and students' behavior) and its relation to students' achievements in Middle schools in Jeddah, Saudi Arabia.

In Saudi Arabia, students should achieve minimum standard levels in Mathematics because of its relation to different areas of science, relevance to their Islamic civilization, role in improving the educational system and students' learning. Mathematics is important because of its application of its concepts in everyday life (Seah & Bishop, 2002). It is connected with other activities such as economic, science and technologies (Tella, 2008). Al-Agili, Bin mament, Abdullah and Abdul Maed (2012) argue that students must be

acquainted with significant Mathematics knowledge to perform well in courses such as physics, chemistry, biology and economics. Mathematics plays a significant role in the life of nations and considered one of the most important subjects which taught in schools (Walshow, 2012). Baroody (1987) and Bishop (1996) asserted that Mathematics is one of the most important elements in our societies and can be used to solve many problems that we may face. Al Agili, Bin-Mament, Abdullah, and Abdul Maed (2012) concluded that Mathematics is considered to be the “backbone” of many science activities. Herbert (1978) describes Mathematics as the “Queen and servant” of the sciences. According to Ismail and Atan (2010), the roots of modern Mathematical science go back to the 8th century and were developed by al-Khwarizmi a scholar in the Arabian Peninsula<sup>1</sup>. The existence of this science at that time helped in the progression of other areas of knowledge such as Medicine and Astronomy.

The levels of current achievement in Mathematics reflect the strengths and weaknesses of any educational system. Shin, Lee and Kim (2009) stated that academic achievement is one of the most important ways in which nations can evaluate the level and efficacy of their educational systems. Mathematics is about finding solutions for problems, which may lead to develop the individual’s mental capabilities in learning (Tella, 2008). Furthermore, achieving satisfying or high levels in Mathematics may contribute to students’ positive attitude towards learning (Ahmed, Werf, Kuwper & Minnaert, 2013).

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<sup>1</sup> One of his book titles gave the world the word Algebra - “Al-Kitab al-mukhtasar fi hisab al-jabr wa'l-muqabala” (“The Compendious Book on Calculation by Completion and Balancing”).

Mathematics achievement is the sum of the experiences, concepts, and Mathematical theories such as Numbers, Algebra, and Geometric which are collected by the students during their study of Mathematics. These Mathematical concepts are usually measured with consecutive tests performed by the students at the end of each skill. Academic achievement is students' performances in Mathematics which is measured by using scores that determine the students' level in Mathematics knowledge (Journal of Educational and Instructional Studies in the world, 2012). Abu-Hilal (2000) mentioned that Mathematics achievement is the total scores of tests, assignments, and quizzes that rank the student's achievement in Mathematics among his peers.

In this study, the term Mathematics achievement refers to the Saudi students' achievement in Mathematics for eighth-grade students based on TIMSS 2003, 2007 and 2011 studies. In the next section of this chapter, the major factors that may affect Mathematics achievement are reviewed.

Teachers were chosen as the research subject due to their acknowledged crucial role in students' achievements. This role is influenced by teachers' knowledge, practice and their satisfaction with what they are doing. Many studies and debates examine the relationship between teachers and students achievements (Hattie, 2003; Walshaw, 2012; Nye, Konstantopoulos, & Hedges, 2004).

Teachers' pedagogical practices in the classroom may influence students' achievement in Mathematics. They are in close contact with their students for more than half a day teaching them certain values that would assist them to understand how to live (Chutia, 2013). They are the facilitators of knowledge; the way they teach the curriculum

may affect students' attitudes towards Mathematics (Watson, 2008). Teachers are therefore key contributors to the development of a nation and its professional advancement and hence, their satisfaction with their workplace should be of prime importance as this may impact their pedagogical practices (Bishay, 1996).

It is important to create a satisfactory workplace atmosphere for Mathematics teachers to do their jobs for two reasons. First, Mathematics teachers need to have the methods and skills to teach Mathematics and to explain what can be complex and abstract concepts in simple ways for students to understand (Hill, Rowan & Ball, 2005). Teachers are required to have sufficient knowledge of subject content, techniques to work with students and to choose helpful ways of representing the subject in the classroom (pedagogical content knowledge or PCK) (Shulman, 1987).

Second, there is a shortage in the number of Mathematics teachers internationally. Mathematics teachers are more likely to leave the teaching sector because they can have alternative and often better remunerated career options in the business and technological sectors more than other teachers (Ingersoll & May, 2008). According to Carnoy, Brodziak, Luschei, Beteille & Loyalka (2009), when individuals with Mathematics skills consider teaching as a profession, they weigh that decision against the attraction of other Mathematics substitute professions. Moreover, Perda and Ingersoll (2009) found that, in the USA, about 8,000 teachers from those who decided to leave at the end of 1999-2000 and 2000-01 reported that job dissatisfaction was a 'very' or 'extremely important' reason that influence their decision to leave teaching as a career. While less than a quarter of all Mathematics teachers who left teaching at the end of the 1999-2000 did so because of retirement, about half of their stress and exhaustion was because of job dissatisfaction.

Teachers' job satisfaction, which is the focus of this study, can be defined as doing a job with joy, doing it well and being rewarded for one's efforts (Singh & Rawat, 2010). According to Evans (1997) teachers' job satisfaction can be defined as "a state of mind determined by the extent to which the individual perceives her/his job-related needs to be being met" (p. 328). It is also defined as an "affective attitude of teachers towards their role, derived from the evaluation of characteristics of the job itself" (Vrgovic & Pavlovic, 2014, p. 54). This study, teachers' job satisfaction is specifically about how teachers evaluate their levels of job satisfaction in relation to four main dimensions: administrative support, workplace atmosphere, teaching efficacy, and student' behaviour. In each dimension there are several items that are related to teachers' working needs in the dimension. I specifically wanted to measure teachers' satisfaction in these four dimensions as described in the research literature only. Teachers were required to evaluate each item using a five point Likert scale ranging from not satisfied at all to very satisfied.

It is possible to claim that high levels of job satisfaction can affect the quality of teaching and even the teachers' desire to continue in the teaching profession (Bogler, 2002). It is universally recognized that teachers' instructional performance plays a key role in students' learning and academic achievements (Hattie, 2009). Thus, it should be a priority to improve all working conditions and investigate all the factors that are associated with teachers' satisfaction (Usop, Askandar & Kadtong, 2013).

Teachers' job satisfaction is one factor that may affect educational quality and students' achievements. There is a positive impact of teachers' job satisfaction on education quality; therefore, education quality can be improved by influencing teachers' job satisfaction (Michaelowa, 2002). Ololube (2006) stated that "The relevance of job

satisfaction is very crucial to the long-term growth of any educational system around the world" (p.1). Teachers need to be satisfied in teaching to positively impact the education quality. Moreover, Murage and Kibrra (2014) stated that teachers' job satisfaction is related to commitment, absenteeism, and turnover, thus, teachers who are not satisfied with their work will not perform well and affect their productivity. Mahmovei, Pakaman, and Akbari (2013) found that teachers' job satisfaction has a positive impact on students' achievement.

The literature review of this study explores research that is relevant to the relationship between students' achievements and teachers' satisfaction; as a result, several things become apparent. Regarding teachers: there are certain dimensions that may affect their job-satisfaction. For example, demographic factors which include age, gender, experience and qualification (Briones, Tabernero & Arenas, 2010; Oplatka & Mimon, 2008; Akiri & Ugborugbo, 2009); economic factors which include salary and school resources (Abdullah, Uli & Parasuraman, 2009; & Imazeki, 2005); self-efficacy and motivation (Rosa & Alessandri, 2009, Klassen & Chiu, 2010) and finally, working stress which is caused by workload and teachers shortage (Kayastha & Kayastha 2012; Ritvanen, Louhevaar, Helin, Hanninen 2003, Bogler, 2002; & Halonen , 2003). These are the key issues that will be the focus of this research.

Jeddah was chosen as the context of this study because it participated in TIMSS 2003, 2007 and 2011. Middle schools are where students from grade 7 to 9 spend three years to complete this stage of education which comes after they finish Primary school. Moreover, I was teaching in Jeddah which gives me an advantage to gain access to Middle schools. Jeddah is a city that has diverse population from all social classes. Therefore, the demographic structure of the city allows for different participants from different social and

cultural backgrounds to participate in the study. This may strengthen the study data and allow for different points of views to be investigated.

### **1.2 Significance of the Study**

In Saudi Arabia, very little research has been conducted in the area of Mathematics teachers' job satisfaction and any relationship this may have with the students' academic outcomes. This study may provide information on teachers' levels of satisfaction. If there is any relationship between teachers' job satisfaction and the four dimensions of job satisfaction this research will investigate, then there is a potential that this research may help to support teachers engagement with their work environment. It also may help school administrators to review existing motivational policies and practices with a hope that they can enhance work performance that will lead to enhanced teachers' professional development. Finally, this research may inform the education policy makers in Saudi Arabia if there is any relationship between teachers' job satisfaction and students' achievement in Mathematics. This understanding may assist in how to best improve teachers working environment in Saudi Arabia in order to improve students' achievements.

### **1.3 Research Questions**

The following questions will be examined:

1-To what extent are teachers in Middle schools in Jeddah, Saudi Arabia satisfied with their jobs in relation to the following dimensions that were identified previously by the literature as significant: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?

2-What explanations do teachers give in Middle schools in Jeddah, Saudi Arabia who were

either satisfied or not satisfied in relation to the following four dimensions: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?

- 3- Do socio-demographic factors (gender, level of education the teachers teaches, teaching experience, school building type (government or 'rented'), school location, teacher's highest degree achieved, choosing to be a Mathematics teacher, view of own effectiveness, time spent on teaching Mathematics, and Mathematics courses attended) affect teachers' levels of job satisfaction in the four dimensions identified?
- 4-In teachers' perceptions, how might their levels of job satisfaction be related to their students' performance in Mathematics in Middle schools in Jeddah, Saudi Arabia?

#### **1.4 Limitations of the Study**

The main limitation of this study is related to the lack of research literature related to the Saudi Arabia educational system and the status of Mathematics teachers. There have been very few studies into these issues in Saudi Arabia and therefore, it is difficult to access specific research or any published work on the status of Middle school Mathematics teaching. Therefore, in some cases, I have to rely on similar literature limited in availability from other comparable educational contexts. There is also a lack of literature that may justify my claim with respect to the relationship between Mathematics achievement and teachers' job satisfaction. Most research explores the dimensions without predetermining those satisfaction dimensions or investigating their relation to students' achievement in Mathematics.

#### **1.5 Overview and Research Structure**

The structure of the thesis is designed as following:

## Chapter 1 – Introduction

The first chapter of the thesis provides background information regarding the topic of the study beginning with the research problem and rationales. It also explains the significance of the study and mentions the limitation of this study as well. Then the research questions are presented. There is also initial discussion about the importance of the study and the contribution it makes to the field of Mathematics teaching in Saudi Arabia. Finally, the limitation of the study is then introduced.

## Chapter 2 – Context

This chapter presents the context of the study. There is a full description of the city demographic features and people. There is also a description of the schools types and buildings. This chapter also includes pictures that illustrate the context for the reader. Finally, the results of grade eight students in Saudi Arabia in TIMSS 2003, 2007, and 2011 are stated.

## Chapter 3 – Literature Review

This chapter examines past studies that have been conducted regarding the research topic. Four areas are reviewed: the conceptual framework, factors affecting students' achievement in Mathematics, Mathematics teachers' job satisfaction: the meaning, importance, and dimensions affecting job satisfaction. As a result a research conceptual framework is developed to guide this study.

## Chapter 4 – Methodology

In this chapter, the main approaches used for this research project are discussed (in this case, a mixed methods approach; an online mixed methods survey). The discussion justifies why the mixed methods approach for obtaining data is chosen. It presents a full description

of the data collection instrument. It also discusses issues of validity and reliability. Finally, ethical matters are presented.

## Chapter 5- Data Collection and Analysis

In this chapter, I highlight the main steps I followed to collect the data and some of the problems encountered. I also present a full description of the process of data analysis to answer the research questions. The analysis is a mixed method analysis. Quantitative data is analysed in two different ways. The first part of analysis is carried out using descriptive statistical data analysis. The type of descriptive data analysis used is measures of central tendency. The second is inferential statistical analysis. It measures the reliability of conclusions that were based on data drawn from a sample of population (Isotalo, 2014). It examines whether data obtained from a sample of population would be the same if obtained from the entire population (Reinard, 2001). These methods of analysis are used to measure teachers' levels of satisfaction in regards to socio-demographic factors and four dimensions of job satisfaction (administrative support, workplace atmosphere, teaching efficacy, and students' behaviour). The second part is carried out using qualitative method. It is thematic analysis in which data is coded to look for emerging themes (Graff, 2012).

## Chapter 6 – Results and Discussion

This chapter addresses the research questions answers. This is presented with discussion and reference to the literature review. The results are as follows: quantitative data in forms of tables and charts and qualitative data in form of emerging themes. The study finds that there is a relationship between teachers' levels of job satisfaction and students' achievement in Mathematics. 64 of 114 teachers answered saying 'yes' their levels of job satisfaction influences students' achievement in Mathematics. Teachers revealed that salary and health and housing rights, maternity leave and female rights, and lack of teaching resources have

an impact on their levels of satisfaction.

## Chapter 7 – Findings, Limitations and Future Studies

This final chapter of the thesis summarizes the findings of the research project, present specific responses to the research questions and highlights the implications they may have on teachers' levels of satisfaction and students' achievement. It also discusses the limitations of the study and suggests possible avenues for future research.

## Chapter Two: Context

### Overview

In this section, I will describe the context of the study. I will start with a geographical description of Saudi Arabia location. Then, I describe the educational system which includes school days, school buildings, teachers, curriculum and assessment. After that, Jeddah, where the study will take place, is described to the readers as it is the research context of this study with reference to a statistical description of the population of schools, teachers, and supervisors in schools in Jeddah in 2017. Finally, a description of students' results in TIMSS 2003, 2007, and 2011 are presented.

### 2.1 Saudi Arabia



Figure 2.1. Map of Saudi Arabia. Retrieved from <http://smartraveller.gov.au>

Saudi Arabia is an Arab Muslim country which occupies the biggest part of the Arabian Peninsula. Saudi Arabia is located in Southwest Asia with approximately 31.7 million people living within about 2,330,989 km<sup>2</sup> (<https://www.stats.gov.sa/en/852>). More than 90% of the total area is a desert (Hamdan, 2005). The capital city of the country is

Riyadh and the major cities are Jeddah, Mecca, Medina and Dammam. It is divided into 13 provinces and there are 26 million inhabitants resides in developed urban areas such as the capital city Riyadh and Jeddah in the West Province (Onsman, 2011). Saudi Arabia follows the *Hijri* calendar which refers to Prophet Mohammad's migration from Mecca to Medina (Looney, 1992). The official language in the government sectors and education is Arabic. The Saudi view of world is shaped by two main factors Islam and Arabian culture (Elyas, 2008). In the late nineteenth century, life in Saudi Arabia changed dramatically with the discovery of oil and gas (Onsman, 2011). The economic state of people has boomed and the nation is rapidly modernizing and catching up with other developed countries.

### **2.1.1 Education**

Education in Saudi Arabia is of two types' formal education and informal education. The informal education which was the first version of education existed in Saudi Arabia and was called " *Kuttab*" or "*Ktateeb*" (see Figure 2.2) where students gather in the mosque and learn the Holy Quran from the "*sheik*" who was the teacher, then in the 1953 the first Ministry of Education was found and formal education replaced informal education in organized schools with formal teachers and curriculum, but students studied limited subjects at that time like Religion, History, and Art (Elyas & Picard, 2010).



Figure 2.2. Ktateeb (Informal education). Retrieved from <http://forum.makkawi.com>

According to Sadan (2000), the Ministry of Education was founded in 1953. Fahad bin Abdul Aziz (the fifth king) was the first Minister of Education (Al Jabr, 1990). The Ministry was given the task of expanding the national school system. At that time, the Ministry's approach was influenced by the British system in Egypt and the French system in Lebanon and Syria (Omar, 1988). Women were first allowed to study at schools in 1961. According to Rahman and Alhaisoni (2013), the general purposes of education in Saudi Arabia are:

1. To have the student understand Islam in a correct and comprehensive manner.
2. To plant and spread the Islamic creed and to furnish the student with the values, teachings and ideals of Islam.
3. To equip him/her with various skills and knowledge and to develop their conduct in constructive directions.
4. To develop the society economically, socially and culturally and to prepare the individual to become a useful member in the building of their community.

The Saudi pre- university education includes more than 24,000 schools and training institutions (Onsman, 2011). There are three types of schools, Public schools which provide students with free education and books. The second Private schools which are run by Saudi individuals under the supervision of the Ministry of Education and implement the same curriculum taught in public schools. The third type is International schools which follow a specific foreign curriculum for their national living in Saudi Arabia. The Saudi school system consists of 12 grades only. The first six grades are the Primary level, then 3 grades for Middle school, and 3 grades Secondary school (Abdan, 1991). The school day is divided into seven periods. It starts at 7:30 am and ends at 1:45 pm. Saudi schools are opened for five days a week, from Sunday to Thursday; being closed on Fridays and Saturdays. In each school day (see Table 2.1), a pupil attends seven periods of instructions - lasting around 45 minutes each - with 20 minutes for lunch and 30 minutes devoted for noon prayer (Sadan, 2000).

Table 2.1

*The school day*

Periods	1	2	3	Recess	4	5	6	Recess	7
Time	7:30	8:15	9	9:45	10:10	10:55	11:40	12:25	1 pm
Subjects	Quran	Arabic	Math	----	History	Sport	Science	----	Art

*Note.* Retrieved from <http://ghrnata.blogspot.com.au/>

The table above demonstrates how a school day table looks like in a typical Middle school. All subjects are taught in Arabic except for English. The students' role is to receive knowledge and to learn from the teacher so the teachers and textbooks occupy the primary role in the class while the students are in secondary role (Elays & Picard, 2010). However, the Saudi curriculum has gone through many changes since the establishment of the Ministry of Education as a reaction from the government of Saudi Arabia to meet today's

global and economic demands (Baki, 2004). The first attempt was in 2004 when all curricula underwent review and change; however, this change proved to be insufficient to meet the challenges of the modern world. Hence, in 2010, the Ministry of Education, in Saudi Arabia, launched a development plan in Mathematics education (see Figure 2.3, 2.4, and 2.5). The government set up a fund to assist curriculum change (Onsman, 2011). It was hoped that this plan will change the teaching and learning of Mathematics in schools. However, TIMSS results in 2011 suggested that Saudi Arabia came at 37 out of 42 countries participated in TIMSS. Saudi students attained an average score of 394 points comparing with South Korea which achieved an average score of 613 and was the top performing country in TIMSS 2011.

This study will depend on the outcomes of TIMSS 2011 for eighth-grade students and will be the basis on which the study will be built upon. This is because 2011 results were reported in detail by the "Excellence Centre of Science and Mathematics Education" is one of King Saud University branches which were established in 2007. This Centre aims to improve Mathematics and Science education in Saudi Arabia with huge support from the Ministry of Higher Education.

Saudi Arabia has segregated school system for boys and girls. Based on Saudi cultural and religious beliefs (Baki, 2004), schools are in separate buildings (see Figures 2.6 & 2.7), have separate staff rooms and two separate Departments of Education, one for girls and one for boys, with different curricula in terms of subjects offered in order to comply with ascribed gender needs based in Islamic culture. For example, boys have athletic classes and girls study cooking and sewing classes. The school buildings are of two possible types (see Figures 2.6, 2.7, 2.8& 2.9). The first type is schools built by the Ministry of Education

and which were originally designed to be schools with large classes, special laboratories and a school library (see Figures 2.8& 2.9). The second type is rented schools (see Figures 2.10& 2.11). They were basically designed as normal houses. However, because of the shortage of land the Ministry of Education hires these houses and makes them regular schools. These schools often lack necessary equipment and labs for teaching.

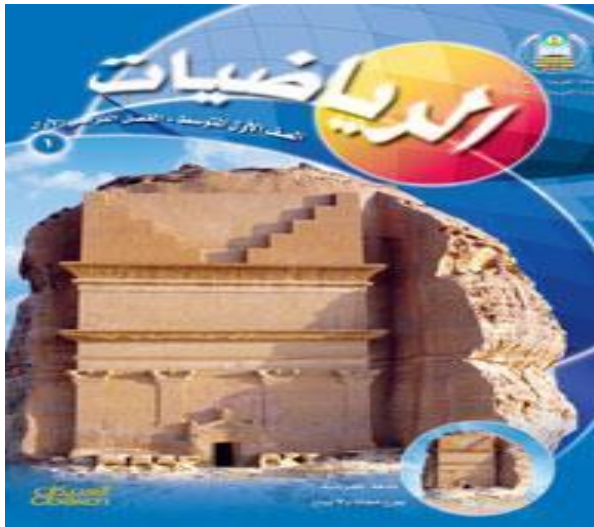


Figure2.3. Mathematics Curriculum grade 7  
Retrieved from <http://ebook.sa/default.aspx>



Figure2.4. Mathematics Curriculum grade 8  
Retrieved from <http://ebook.sa/default.aspx>

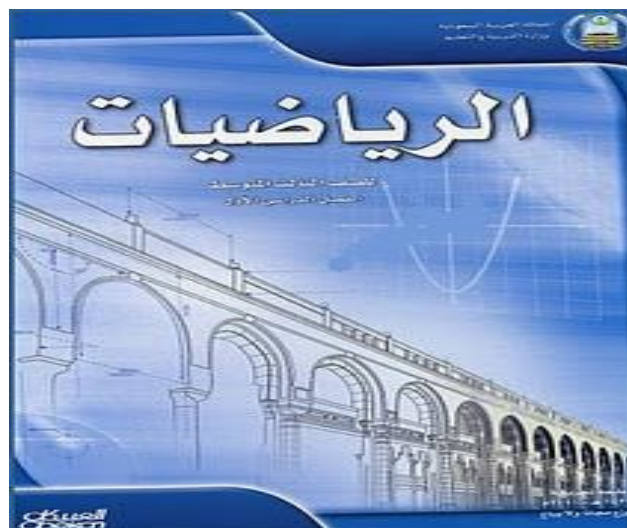


Figure2.5. Mathematics Curriculum grade 9.  
Retrieved from <http://ebook.sa/default.aspx>



Figure 2.6. Government School Building (Girls).  
Retrieved from <http://zawaayaa.blogspot.com.au>



Figure2.7. Government School Building (Boys).  
Retrieved from <http://www.altarif.org>



Figure2.8. Government School Building.  
Retrieved from <http://almnatiq.net>



Figure2.9. Government School Building.  
Retrieved from <http://archive.aawsat.com>



Figure2.10. Rented School Building.

Retrieved from <http://almnatiq.net>



Figure2.11. Rented School Building.

Retrieved from <http://www.rafha-news.com>

Some Mathematics teachers in Saudi Arabia lack the basic pedagogical knowledge and training for teaching (Mansour, 2010). This is because, in Saudi Arabia, teachers are of two types; teachers with bachelor degree in Mathematics only and teachers with bachelor degree in Mathematics plus a graduate diploma in education (Al-Zaharni & Jones, 2012). The first type is teachers who graduated from university; those usually have a deep knowledge in Mathematics as a science and have limited knowledge about teaching pedagogy. However, those teachers are allowed to teach due to the fact that there is a shortage of Mathematics teachers in schools. The second type is teachers who graduated from teachers' colleges; they usually graduate with a double degree in both Mathematics and teaching. Those teachers are often expected to perform better in teaching and dealing with students in the classroom and know how to diagnose any educational problem.

Great importance is placed on examinations in Saudi Arabia and they often determine what teachers teach and how. Exams often encourage teachers to focus on preparing students for exams; therefore, teachers provide drill activities that may help students to achieve good results (Al-Sadaawi, 2010). The final exams, which take place at the end of the year, determine whether the student will be promoted from one grade to another except at the Primary level where it depends on the teacher's ongoing assessment which measures the students' skills in all subjects throughout the year.

In Middle schools, students must obtain at least 50% of the total mark in Arabic and Islamic studies to pass and 40% of the total mark in Mathematics, Science and English. If a student fails to obtain the minimum score in Science, Mathematics and English, for example, if a student gets 28 in Math, 30 in Science and 37 out of 100 in English but has passed the Islamic and Arabic subjects, the regulations would allow this student to make use of a promotion system where he/she is considered to have successfully passed two subjects, in this case mainly Science and English, and then to sit the Mathematics test again two weeks after the final examination and before the summer holidays. If the student fails the re-test, he/she must repeat the year level.

## 2.2 Jeddah

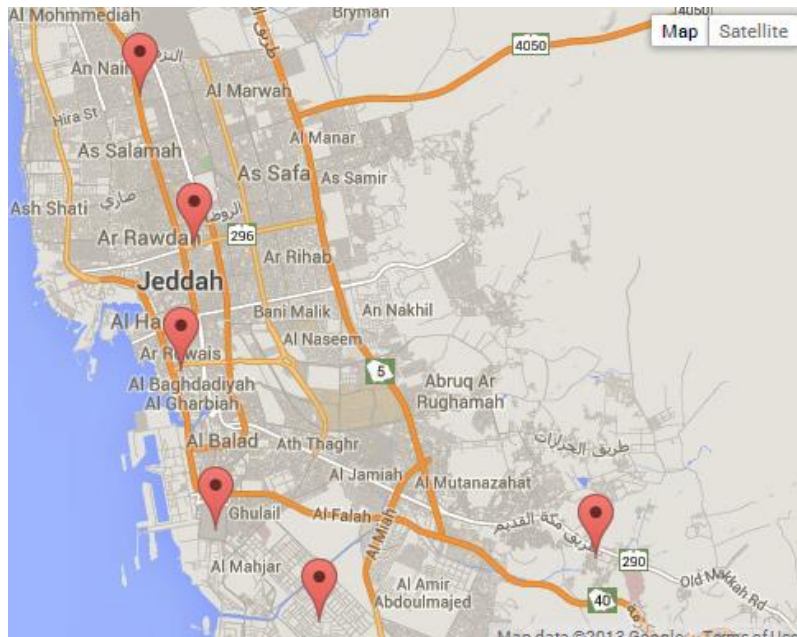


Figure 2.12. Map of Jeddah. Retrieved from <http://ebook.sa/default.aspx>

Jeddah is a coastal city located in the Western region of Saudi Arabia and is called the “Bride of the Red Sea”. It is the economic capital of Saudi Arabia with an estimated population of around 4.3 million in 2017 as the latest statistics showed (<https://www.stats.gov.sa/en/852>). Jeddah is the main crossing for pilgrims to Mecca. Therefore, it is considered a multicultural city where the society consists of Saudi nationals and others who have settled from other countries such as Egypt, Palestine, Syria, Yemen, Pakistan, Turkey and Russia. All these nationalities have merged with the Saudi society and created a special culture which is not found in any other city in Saudi Arabia (see Picture 2.13).



Figure 2.13. Multicultural Society in Jeddah. Retrieved from <https://www.almowaten.net>

In the field of education, there are 421 International schools, 412 Private schools and 1177 Public schools in Jeddah including all educational levels; Primary, Middle and Secondary education (<https://edu.moe.gov.sa/jeddah/About/Pages/Statistics.aspx>). In Jeddah, there are 13603 female teachers, 14280 male teachers, 738 male supervisors, and 542 female supervisors (see Table 2.2). Jeddah has a greater proportion of rented schools. They are located in the poorer areas, with an average of 34% of rented schools with around 35 students in each classroom (General Directorate of Education in Jeddah, 2013). Thus, in crowded areas, schools open twice a day, morning and evening, in order to accommodate all students. From my experience as a teacher in one of these kind of schools for five years I believe that this type of school causes many behavioural and health problems among students and because of the large number of students in each class, teacher lack the ability to control students and measure their educational level accurately.

Table 2.2

*Statistical Information on Education in Jeddah*

	Public Schools		Middle School Teachers		Supervisors	
Gender	Boys	Girls	Male	Female	Male	Female
Number	645	532	13603	14280	738	542

Due to the large number of schools in Jeddah, there are five Regional Educational Offices under the management of the General Directorate of Education (General Directorate of Education in Jeddah, 2013). These offices have the responsibility to manage the educational process in each area, register students at schools and organize training courses for teachers. They are in, Northern, Western, Central, Eastern and Southern regions of Jeddah (see Figures 2.14, 2.15, 2.16, 2.17 and 2.18).

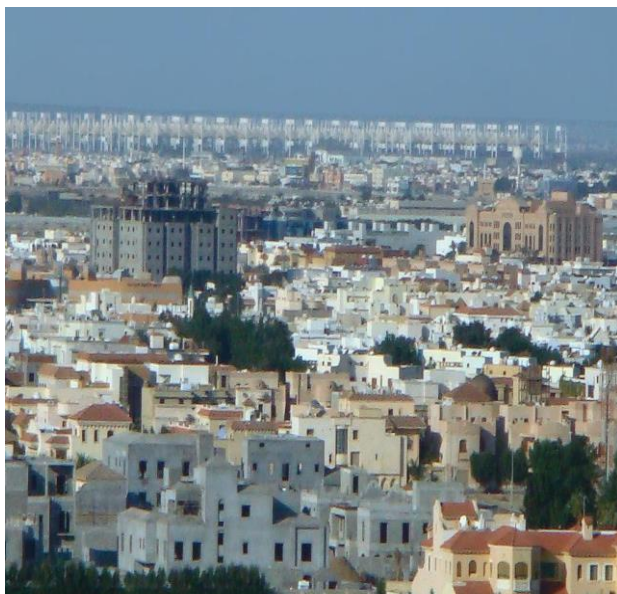


Figure 2.14. Northern Region. Retrieved from [www.alwatan.com.sa](http://www.alwatan.com.sa)



Figure 2.15. Western Region  
Retrieved from <http://www.urtrips.com>



Figure 2.16. Central Region. Retrieved from <http://www.8jeddah.com>



Figure 2.17. Eastern Region. Retrieved from [www.alwatan.com.sa](http://www.alwatan.com.sa)



Figure 2.18. Southern Region. Retrieved from <http://www.al-madina.com>

In the poorer areas (see Figure 2.16), little attention is paid to schools and to being able to complete one's study. That may be because students are more interested in seeking job opportunities and helping their families with living costs (Fadaak, 2011). The poorer

areas are located in Southern and Eastern regions of Jeddah. These districts are poor and lack basic services needed by the population such as water, electricity and sanitation in addition to lacking educational, health and social services (Fadaak, 2011). In contrast, in richer areas, where all services are available, families are willing to pay for their children's education and to even send them abroad.

### **2.3 The History of Saudi Arabia Participation in TIMSS Study**

Saudi Arabia participated in the last three sessions of TIMSS which were in 2003, 2007, and 2011 (The Ministry of Education of Saudi Arabia, 2012). In TIMSS 2003, Saudi Arabia participated in the eighth grade test and was ranked in 43 of 45 countries with average achievement equal 332. While, in TIMSS 2007 and in the same level the result was worse than before. Saudi Arabia achieved 329 and placed in 47 among 49 countries. In TIMSS 2011, Saudi Arabia participated in the eighth grade test and was ranked in 37 of 42 countries with average achievement equal 394 (Excellence Centre of Science and Mathematics Education, 2011). Saudi Arabia result in TIMSS 2011 can be categorized as following (Table 2.3).

Table 2.3

*Percentages of Saudi Students reaching the international benchmarks for Mathematics achievement in TIMSS 2011 (Grade 8)*

International Benchmark	standard	Students Average
Advanced	Above 625	1%
High	550-625	4%
Intermediate	475-550	15%
Low	400-475	27%
Less than low	Under 400	53%
Total	-----	100%

Table 2.3 above shows that the highest percentage achieved by Saudi Arabia students was “less than low”; the results were less than 400 points by 53%.

The study showed Saudi Students’ performance by Content Domain and Cognitive Domain. Regarding Content Domain, there were four main domains: Numbers, Algebra, Geometry, and Data and Chance. Statistics indicated that the highest results achieved by Saudi Students were in Algebra with the rate of 399 (see Table 2.4). The Cognitive Domain (see Table 2.5) involved four main domains: Knowledge, Applying, and Reasoning. Saudi Arabia students achieved higher performance average in Knowledge which has the rate of 402.

A full report on the participation of Saudi Arabia was posted with debates between the "Excellence Centre of Science and Mathematics Education" and The Ministry of Education in Saudi Arabia in 2012. The target of these meetings was to gain recommendations that contribute to the development of Mathematics education in the

country. The most notable conclusions were:

- The importance of conducting a national study on the use of qualitative and quantitative study by using TIMSS study or other sources to determine the factors affecting Mathematics achievement in Saudi Arabia.
- The need to build cooperation work between the Ministry of education, scientific centers, and the private sectors for the development of Mathematics.
- To utilize from the experiences of developed countries in the area of Mathematics to build new standards in Mathematics education which meet the demands of the new civilized world.
- Support the participation of the teachers and supervisors and principals in the implementation of studies and research which are concerned with solving the Mathematical achievement problems.
- Starting to develop classroom environments to be interactive, collaborative, and focusing on the higher Mathematical thinking skills (Excellence Centre of Science and Mathematics Education, 2012).

Table 2.4

*Saudi Students' Performance by Content Domain (TIMSS 2011, Grade8)*

Content Domain	Average Performance	International Average
Numbers	393	500
Algebra	399	
Geometry	364	
Data and Chance	387	

Table 2.5

*Saudi Students' Performance by Cognitive Domain (TIMSS, 2011, Grade8)*

Cognitive Domain	Average Performance	International Average
Knowledge	402	500
Applying	375	
Reasoning	388	

## 2.4 Summary

In the previous section of this chapter I focused on the context of this study Saudi Arabia. Then, education in Jeddah is described in terms of school types, demographic division, and teachers and students numbers. Finally, the importance of TIMSS in Saudi Arabia context with a comprehensive presentation of the result of Saudi eighth grade students from 2003 and 2011 were discussed. It also highlighted where the Saudi students' performance stand in TIMSS studies. Finally, the recommendation that the Saudi Ministry of Education approved to improve Mathematics education in Saudi Arabia was introduced. In the next chapter, factors affecting Mathematics achievement will be reviewed with critical discussion.

## **Chapter Three: Literature Review**

### **Overview**

This study is conducted to examine the level of job satisfaction of Mathematics teachers in Middle schools in Jeddah, Saudi Arabia and its influence on students' achievement. Trends in International Mathematics and Science (TIMSS) studies from 2003, 2007, and 2011 showed that the academic achievement in Mathematics among grades four and eight was low compared to other countries such as South Korea and Singapore.

In this chapter I start with the conceptual framework of the study. Then, the literature review that covers four major issues with discussion and analysis is presented. These four issues are: the conceptual framework, factors affecting students' achievement in Mathematics. It includes the following: attitude and Mathematics achievement, socio-demographic factors, school climate, teacher's role. The third issue is job satisfaction. This is discussed in relation to meaning and definition provided in the literature. Finally, the fourth issue is the four dimensions, administration support, workplace atmosphere, self-efficacy, and students' behaviour, that may influence teachers' job satisfaction are discussed with reference to literature.

### **3.1 Conceptual Framework**

My research examines Mathematics teachers' satisfaction levels in Middle schools in Jeddah, Saudi Arabia.

This study will answer the following questions:

1-To what extent are teachers in Middle schools in Jeddah, Saudi Arabia satisfied with their jobs in relation to the following dimensions that are identified by the

literature as significant: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?

2-What explanations do teachers give in Middle schools in Jeddah, Saudi Arabia who were either satisfied or not satisfied in relation to the following four dimensions: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?

3- Do socio-demographic factors (gender, classroom level the teachers teach, teaching experience, school building type (government or 'rented'), school location, teacher's highest degree achieved, choosing to be a Mathematics teacher, view of own effectiveness, time spent on teaching Mathematics, and Mathematics courses attended) affect teachers' levels of job satisfaction in the four dimensions identified?

4- According to teachers' perceptions, how might their levels of job satisfaction be related to their students' performance in Mathematics in Middle schools in Jeddah, Saudi Arabia?

From the questions above, the key concepts that I need to examine are the dimensions affecting teachers' job satisfaction: administrative support, students' behaviour, workplace atmosphere, and teaching efficacy. These dimensions are examined in relation to demographic factors first. This is to understand if demographic factors have any impact on teachers' levels of satisfaction in the four dimensions. After that, teachers' levels of job satisfaction in the four dimensions are measured. Finally, the study explores if there is any relationship between teachers' levels of satisfaction in the four dimensions and students

achievement in Mathematics in Middle school in Jeddah (see Figure 3.1 below).

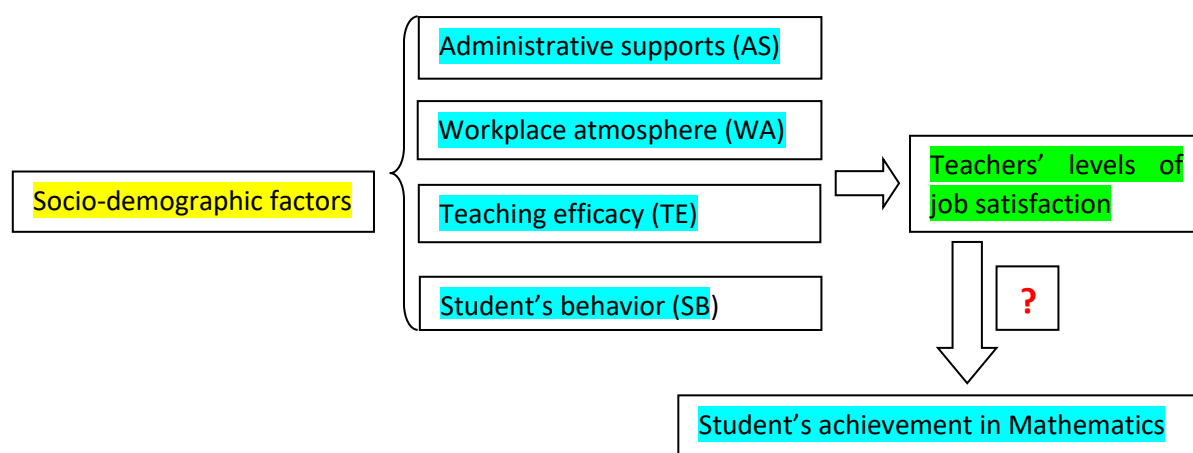


Figure 3.1 Conceptual Framework

I identified these four dimensions as being important to investigate for three reasons. First, my ten years of experience in teaching Mathematics. Through my experience as a Mathematics teacher in Middle schools in Jeddah, I personally found that these dimensions were a cause of job dissatisfaction. These dimensions have affected the way I personally performed in the classroom as well as my teaching practice.

The second reason for specifying these dimensions is the supporting literature that indicated these dimensions as being significantly related to teachers' satisfaction. For example, Dinham and Scott (1998) argue that the main sources of teacher dissatisfaction are schools working conditions, the task of teaching children, school resources, work load, lack of support services for teachers, and promotion opportunities. Supporting this view was Ingersoll (2001). He mentioned that low salaries, inadequate support from the school administration, and students discipline problems, all contribute to teachers' job dissatisfaction. Moreover, Schwarzar and Hallum (2008) point out that the workload and working conditions contribute to teachers' low levels of satisfaction in teaching. The

workplace is also identified because, according to Brunetti (2001), the conditions which include large class sizes, a highly diverse student population, inadequate facilities and a shortage of supplies and equipment may affect teachers' satisfaction levels. Finally, Norton and Kelly (1997) identified the following factors that may lead to increased teachers dissatisfaction: school administration, students' manners, workload, low salary, and relationship with colleagues.

I identified teachers' demographic factors which is the teacher's geographic, historical, and educational background that may influence his or her behaviour in the classroom (Akiri & Ugborugbo, 2009). Moreover, Bloom (1968) mentioned that teachers interact differently with their environment due to the fact that they often may come from different social and cultural background. Hence, it is important to know the demographic background of the participants to understand how factors such as age, experience, and educational background may affect teachers' levels of job satisfaction.

A number of studies were reviewed in the field of teachers' job satisfaction. For example, demographic factors which include age, gender, experience and qualification (Briones, Tabernero & Arenas, 2010; Oplatka & Mimon, 2008; Akiri & Ugborugbo, 2009); economic factors which include salary and school resources (Abdullah, Uli & Parasuraman, 2009; & Imazeki, 2005); self-efficacy (Rosa & Alessandri, 2009, Klassen & Chiu, 2010) and finally, working stress which is caused by workload and teachers shortage (Kayastha & Kayastha 2012; Ritvanen, Louhevaar, Helin, Hanninen 2003, Bogler, 2002; & Halonen, 2003). What is not so clear, even from the considerable body of academic literature related to this area, is how teachers' job satisfaction may affect students' achievement, in this instance in Mathematics. Here lies the imperative for educational research; more

specifically in a context like Saudi Arabia where students' achievement in Mathematics is low (TIMSS, 2003, 2007 & 2011).

The third reason is that these dimensions have been rarely investigated in the context of Saudi Arabia. Much of the literature on teachers' satisfaction has been conducted in the West. Thus, we need to have similar studies in developing countries, particularly in the Middle East. There is a need to conduct studies that would contribute to the existing literature in Saudi Arabia and assist with developing the education system and student outcomes.

### **3.2 Review of Related Literature**

#### **Overview**

First, I discuss factors affecting students' achievement in Mathematics. Four factors were identified: attitude and Mathematics achievement, socio-demographic factors: gender and socioeconomic status (SES), school climate, and teachers' role in which I present a review on the importance of teachers in the educational process and its influence on students' achievement. After that I review the research in relation to the meaning of teachers' job satisfaction. This is related to a thorough discussion on the dimensions that may affect teachers' job satisfaction levels. Finally, a summary of the dimensions affecting teachers' job satisfaction: socio-demographic factors, administrative support, self-efficacy and motivation, and workplace atmosphere, and how I interpreted the topic is presented.

### 3.3 Factors Affecting Mathematics Achievement

Students' achievement in Mathematics has aroused the interest of many researchers and educators in order to determine the factors affecting Mathematics achievement. A growing body of research provides many factors which could have an effective impact on student's achievement. These factors are classified in multiple ways by many researches.

Howie (2005) conducted a study in South Africa to explore the most important factors influencing South African students in Mathematics through TIMSS-R Mathematics Test. He classified the factors under three sections. The first is *Students level* factors which include student's home background, student's characteristic and student's aptitude and competencies. The second are *School level* factors which involve School leadership, parents' involvement, physical resources, human resources, and school administration. The third are *classrooms level factors* which include teacher's gender, teaching style, and teacher beliefs and attitudes.

Papanastasion (2000) used some of the TIMSS results to investigate the factors affecting Mathematics achievement. He divided the factors into two types: *Internal and External factors*. The *Internal factors* are those associated with test material such as the content of the test, the quality of questionnaires items, and the language of the test which may has some unfamiliar words or complex sentences and the structure of the questions. The second type is *External factors* which include the socio-economic level and educational backgrounds of the family, teachers and teaching, the school climate, the language background, and the students' attitudes towards Mathematics.

Following Howie's (2005) study, Akdemir and Saritas (2009) focused their study on identifying the factors affecting the Mathematics achievement of students through collecting

the opinions of Mathematics department students. Their findings indicate that Demographic, Individual, and Instructional factors have a significant impact on students' achievement. Each factor is divided into several elements as following:

- Demographic factors involving student gender, socioeconomic status, and parent's education level.
- Instructional factors including Curriculum, instructional strategies and teaching methods, teachers' competency in Mathematics education, and school context and facilities.
- Individual factors which contains, self-directed learning, arithmetic ability, and motivation or concentration

In Kenya, Mbugua, Kibet, Muthaa and Nkonke (2012) researched the factors leading to low performance in Mathematics subject at KCSE (Kenya Certificate of Secondary Education) examinations by students in Koibatek district. Mbugua, Kibet, Muthaa and Nkonke in (2012) classified the factors associated with poor performance in Mathematics into three essential factors which are: *Students factors* including entry behaviour, motivation and attitude. *Socio-economic factors* involving education of parents and their economic status and lastly *School based factor* including availability and usage of teaching/learning, facilities, school type, and teachers' characteristics.

According to Hattie (2003), teachers' knowledge, effective performance, and educational equity among students in the classroom reflect 30% of the major sources variance of educational process, while students and their families and home have 50% of the variance of achievement. Other surrounding variances such as the principals who provide the educational atmosphere for students and support teachers with their needs

inside classrooms accounted for about 5-10% of the variance which is an equal proportion from home, school, and peer effect (Hattie, 2003). Thus, teachers and what is related to teachers is important to consider and to understand how these factors are related to better teaching results and improved student achievements in Mathematics.

From the above studies, I conclude that what happens in schools is a significant source of students' academic achievement. Thus, the modern educational system is based on students, teachers and other surrounding factors which affect negatively or positively the performance in the classroom. Students bring to school special cultural, economic, and social beliefs which distinguish them from other students and affect the way they learn. These are most difficult to change (if that was the aim). Thus, it is at the school level where these various factors can be changed improved or otherwise ameliorated. Teachers are required to have the experience, competency, and knowledge which enable them to shape all students' diversity in one educational framework that guarantee students' access to the cognitive and moral principles.

In the following part of the literature review I will review the most important factors that significantly affect students' achievement in Mathematics that require the attention of researchers in Saudi Arabia. These factors are attitude and Mathematics achievement, socio-demographic factors: gender and socioeconomic status (SES), school climate, and teachers' role.

### **3.3.1 Attitude and Mathematics Achievement**

The psychological factor, which is related to individual factors of the learners, may influence Mathematics achievement negatively or positively. “I do not understand Mathematics”, “I hate Mathematics”, “I do not like Mathematics”, “and Mathematics is a difficult subject”. These words consider the most widespread expressions among students. It has become an urgent need to examine several factors such as students’ attitude towards Mathematics, students’ self-confidence, students’ anxiety, and students’ motivation and their relationship to students’ achievement in Mathematics.

Students’ attitude towards Mathematics is influenced by cultural and social values. Randel, Stevenson, and Witruk (2000) conducted a study to investigate students’ Mathematics achievement among Germans and Japanese students. The results indicate that students’ outcomes in Mathematics in both countries are linked with social and cultural values. German students, for example, are less critical to their academic performance; they also never aim high in Mathematics and less likely to attribute success in Mathematics to studying. Japanese students, on the other hand, receive enough support from their parents, teachers, and society which lead them to understand the importance of success and build positive attitude towards their abilities in Mathematics. The beliefs in the importance of Mathematics in Japan raised the achievements in Mathematics and encourage students to take more advanced courses.

Eshun (1991) examined Ghanaian students’ attitude towards Mathematics in some dimensions such as confidence in learning Mathematics, success in Mathematics, and Mathematics anxiety. The results suggest that students who like Mathematics considered it a useful subject and had low level of anxiety and this in turn has a positive impact on students’

achievement. Regarding self-confidence of doing Mathematics, students' self-confidence increased every year when students succeed and move from one educational level to another.

In the same way, House (2006) investigated the correlation between belief in one's ability and importance of Mathematics and achievement among U.S and Japanese elementary students. The results indicate that in both countries self-belief is connected closely with students' achievements in the subject. Students, who have a positive belief, refer to Mathematics as a success and a hard working course and achieve higher results in the tests than those who do not have this belief. Japanese and United State students who achieve low scores in Mathematics attribute the success at Mathematics to natural talent and good luck. Moreover, in Japan, high Mathematics scores are correlated to memorizing the textbook. In contrast, memorizing the textbook led to low Mathematics achievement in the United States. The writer refers to the differences in the use of memorization in Mathematics (and Science) education in the two countries. The United State reduces the part of memorization in the Mathematics and Science contents while it is still used in Japan.

Shen and Tam (2008) examined the relationship between eighth-grader's Mathematics achievements and their attitude towards Mathematics by using data from TIMSS. "*I like Mathematics, I enjoy Mathematics, and Mathematics is an easy subject*" were the three dimensions measured in this study. The results suggest that the top countries which achieved high scores in Mathematics such as Japan, Korea, Hong Kong, and China students have low levels of negative attitudes towards Mathematics in all three dimensions. On the contrary, countries which were located at the lower end of the Mathematics achievement scale, students' have high level of negative attitudes towards Mathematics. Shen and Tam (2008) explained that high academic standards leads students to work harder and achieve high scores

in Mathematics but in the level of attitude or self-concept they show low level compared with other countries students such as Morocco and Ghana where Mathematics standards are very low which means that they are not required to work hard to achieve success. It is enough to do little and pass Mathematics, thus, their self-concept is high and they have positive attitude towards Mathematics but they have low achievement nonetheless.

This issue of Mathematics standards raises concerns about two important issues: students' achievement and attitude in Mathematics and high quality in Mathematics curriculum and standards. In Saudi Arabia, I believe both are important and achieving both depends on school resources and teachers' ability to implement the curriculum as intended. In Saudi Arabia, the standards are low in Primary and Middle schools but high in Secondary school which makes it very difficult for students to cope. Students in Secondary school are required to obtain high grades in Mathematics in *Qiyas* (a national standard test for Secondary students) to be accepted in University or get a scholarship (<http://www.qiyas.sa/Tests/LearningTests/Pages/GeneralAbilities.aspx>). Thus, with these sudden high requirements, Mathematics becomes difficult. The solution is to move gradually from low to high standards avoiding sudden movements which may results in negative attitude and low achievements.

Kadijevich (2008) from Serbia investigated three types of Mathematics attitudes which were self-confidence in learning Mathematics, liking Mathematics, and the Mathematics usefulness and their relationship with Mathematics achievement. The study used samples from thirty three countries that participated in TIMSS 2003 project in the eighth grade. The findings indicated that each element of the Mathematics attitude affects positively Mathematics achievement. The high level of confidence among students led to increasing

Mathematics achievement. As a result, the attitudes towards Mathematics will be raised automatically. The author suggested that it is important to focus on teachers training before and during service which is reflected in teacher's performance in the classroom. Teachers also must arrange appropriate activities for students which lead to improvements to the students' attitude towards Mathematics.

In all this, I found that students' attitudes towards Mathematics may influence their achievement. Moreover, students' attitudes may be influenced by the social culture that the student is surrounded with. It also depends on the curriculum standards; high standard means that the students may need to work hard to achieve acceptable results. This may influence how students perceive Mathematics as they may find it a difficult subject.

### **3.3.2 Socio-demographic Factors**

#### **Gender**

Many studies have linked students' attitude towards Mathematics to gender differences. Nicolaidou and Philippou (2003) investigated the relationship between students' attitudes towards Mathematics, self-efficacy beliefs in problem-solving and achievement among fifth grade students. The attitude and efficacy scales were completed by 238 fifth grade students (99 boys and 139 girls) from six Primary schools around Cyprus. The results showed a significant association between students' attitudes towards Mathematics and self-efficacy and Mathematics achievements. The study found that self-efficacy and Mathematics is correlated to Mathematics achievement and is stronger than students' attitude towards Mathematics. Moreover, the study confirms that boys have higher self-efficacy, high positive attitude towards Mathematics and acquire better Mathematics scores than their female counterparts. However, Mohamed and Waheed, (2011) measured students' attitudes towards

Mathematics in selected Secondary schools in the Maldives. A total of 200 Secondary students were administered with a questionnaire to investigate their attitude towards Mathematics. The results confirmed that students' attitude toward Mathematics is medium and there were no significant differences among girls and boys in terms of Mathematics attitudes and no gender gap in attitude was observed.

Mathematics achievement is often related to gender differences and that being a boy or a girl affects the way each has been socialized to, think about involved in Mathematics. According to Herrelko, Jeffries and Robertson, (2009) boys and girls learn in different ways, male students are more willing to understand Mathematical concepts in the afternoon; on the other hand, girls are much better understanding in morning time. Moreover, they stated that girls need more explanation, with repetition, to obtain mathematical ideas and use more language to express their Mathematical concepts while boys; on the other hand, prefer integration activities and short team work discussions.

Boys are able to attract their teacher's attention, making it more difficult for girls to have a direct connection with teachers (Thompson, 2003). Sax (2005) demonstrated that the differences between hearings in genders must be considered by teachers in the classroom where boys prefer a louder voice than their female counterparts. Newkirk (2000) pointed out that boys' education should start with their interest, experience and point of view. Boys are also more willing to face challenges than girls and they do better than girls on multiple choice tests; however girls move from specific to general theory more easily (Gurian & Henley, 2001).

There were studies that reported low or no significant influence of gender on Mathematics achievement. For example, Muller (1998) examined the influence of parental involvement and students' gender on Mathematics achievement from grade Eight to Twelve. The data used was from a longitudinal study of the impact of personal involvement on adolescents' Mathematics achievement from grade eight to twelve. The study found little gender differences in the 12th grade students Mathematics achievement. Girls reported higher Mathematics achievement than boys. Moreover, parent involvement may consider effective depending on the existence of parental resources, racial and ethnic differences. Therefore, high school girls' achievement is influenced positively or negatively through the parent's social class, race, and ethnicity not by gender.

A study that found no significant influence of gender in Mathematics achievement was conducted by Santos, Ursini, Ramirez, and Sanchez (2006) on 12-13 years old students in Mexico. The study was a part of a longitudinal research that investigated the relationship between Mathematics achievement and gender traits. The quantitative study was conducted with 1,056 students attending the first grade of Secondary school in Mexico. Students were given two instruments: Mathematical knowledge (which is the focus of this study) to test students Mathematics knowledge and Gender identification to identify students' gender. The results of the first instruments indicated no significant differences in students' Mathematics achievement by gender.

Ercikan, McCreith and Lapointe (2005) examined the factors that influence students' achievement in Mathematics in Canada, Norway, and USA. The data was collected from TIMSS tests in these countries. In addition, students were asked to complete a background questionnaire. The questionnaire collected information in regards to students' participation in

advanced Mathematics and Science, students' beliefs and attitudes towards Mathematics and Science, students' self-expectation on attending universities, and students' home environment. The results suggested that students' achievement in Mathematics and their intention to participate in advanced Mathematics and Science courses are influenced positively by personal and home environmental variables. This was found across all countries. In America, attitudes towards Mathematics are the strongest predictor for female students' achievement more than male students. However, fathers' expectations were the main predictor for American male. Norway students on the other hand were unlikely to take advanced Mathematics courses when they do not have positive attitude towards Mathematics.

There were studies that found a relationship between gender and Mathematics achievement. Gaer, Pustjens, Damme and Munter (2008) investigated the relationship between gender differences and Mathematics achievement to discover the correlation between gender differences and Mathematics course taking among Belgian Secondary students in year 1, 2, 4 and 6 (US grade 7 ,8, 10 and 12). They administered Mathematics achievement tests to 1,495 Flemish students and collected data on the number of classroom hours allocated to Mathematics. The study concluded that gender differences in Mathematics achievement was associated with differences in course-taking with boys achieve higher scores compared with girls. This advantage appeared during Secondary school grade ten and twelve. The result mentioned that students who have achieved in the past high scores in Mathematics have the tendency to take more Mathematics courses, spending extra hours studying Mathematics which finally reflected positively on their achievement in the future.

Bosire, Mondoh, and Barmao (2008) examined the effects of gender on students' achievements in Mathematics among Kenya Secondary students. The study investigates the

Mathematics achievements among mixed and single gender school students. The data was collected using documentary search and analysis of examination results of a sample of 1489 from 4 Mathematics examinations from the years 1999, 2000, and 2001 from four schools. The results illustrate that in general and due to the boys' cognitive learning styles, boys were better than girls in Mathematics achievement in both types of schools. After segregation girls appeared to have a significant improvement but still this were less than boys. The authors suggest that factors such as school resources, teachers' experience, and school leadership support may have caused these differences.

Alkhateeb (2001) investigated the gender differences impact on Mathematics achievement among high school students in United Arab Emirates. The data was collected from 200 students 100 males and 100 females for each of the ten academic years from the Ministry of Education records. Achievement was then compared. The results suggested that female students scored better than male in Mathematics which is contrary to several studies which found that boys outperformed girls in Mathematics achievement. The study suggests three reasons for this. The first one is because of taxes free policy, free education, and free health insurance and high level of family Socioeconomic Status (SES) and schools SES makes the families more concerned with their education without belief in the superiority of male over female which lead to increase the female opportunity to study such Mathematics subject. The second reason is that girls spend more time in the house which helps them to focus on their study unlike boys are common spend hours out door. Men in Arabic culture have the responsibility of outside business while girls should stay at home after returning from schools to help their mothers in inside work. The last reason is that, in Islamic countries, such as the United Arab Emirates and Saudi Arabia, the regulation of Islam encourages female education and promises the parents who care for their daughter's education with a

reward in the hereafter. It is clear that high level of families SES status, Islamic regulation, and parental involvement in children's education affect positively on the female attitude towards Mathematics which reaches to high Mathematics achievement.

Finally, Forgasz (2008) reported two results of two different studies she conducted in 2006 and 2007. The first study was conducted in 2006 on grade 12 Mathematics students across Australia. She monitored enrollment patterns in grade 12 Mathematics and Science subjects. Results showed that female students tend to enroll in advanced Mathematics while male students enroll in intermediate Mathematics. This may influence the field of Mathematics itself. However, Forgasz (2008) believed that the study still missing a qualitative dimension in which the effect of socio-political factors on Mathematics enrollment pattern could be investigated. The second study was conducted in 2007. It was an analysis of 2007 Victorian Certificate of Education (VCE). Three Mathematics subjects were assessed: specialist Mathematics, Mathematical methods, and further Mathematics. The analysis revealed that there was a gender gap in favour of male students. Male students were able to over perform female students in all three subjects.

In summary differences in gender and its effect on achievement is a complicated issue that may need more investigation and elaboration in a separate research project in Saudi Arabia. However, I believe that gender differences in many cases has more to do with other factors such as school environment, teachers' attitudes towards boys and girls ability, and parents' attitudes. All these factors together can significantly influence students' achievements in Mathematics. This was evident in co-educational schools and single-sex schools. For example, a study on co-educational and single-sex schools was conducted in England and Wales by Dale (1969, 1971, and 1974). He demonstrated that the proportion of

happy environments among students and staff in co-educational grammar schools is higher than those in single-sex schools. Moreover, he concluded:

“A cautions summing up would be that the progress of boys is probably improved by co-education while that of girls is not harmed”.  
(1974, p. 267)

Schneider and Coutts (1982) conducted a study in Canada. Using a questionnaire, the study aimed at investigating the environmental perceptions of students from coeducational and single –sex high schools. The study found that co-educational schools are more enjoyable and help to increase self-confidence and to reduce illogical thinking and hostile attitudes. It does not matter if the school is single-sex; the important factors are classroom’ size, well-trained teachers and high levels of education systems to be available in school environments.

Gender is a major factor that may influence how students perceive Mathematics and then how they perform in the subject. However, there are some other factors that may influence students’ achievement in Mathematics such as SES and school climate that are discussed in the next sections.

### **3.3.3 Socio-economic Status**

Socio-economic status is measured by many dimensions, such as individual's income, education, occupational style, and family background. Hackman and Farah (2009) define SES as:

the compound of material wealth and non-economic characteristics such as social prestige and education. SES is invariably correlated with predictable differences in life stress and neighbourhood quality, in addition to less predictable differences in physical health, mental health and cognitive ability. (p.65)

Socio-economic status has an influence on students’ achievements. The family and

the community that surround students have an essential impact on their Mathematics achievement. Israel, Beaulieu, and Hartless (2001) conducted a study in the U.S.A. to examine the influence of family and community on public schools students' achievement. Data was collected from the National Education Longitudinal Survey (NELS). There were 1052 public schools involved in this survey. A sample of grade 8 pupils was selected from each school. The results indicated that families' income and mothers or fathers who hold advanced degrees has a significant positive effect on students' achievement.

The study also found that social movement has an important impact on students' achievement. Students with more movement from one school to another are less likely to gain higher test scores as well as on staying in the school. High income helps the families to live in upscale places which are close to well-equipped schools and which receive great attention from the government in educational and social services. High socioeconomic families can offer scholarships for their children in many countries. Both or single parents who obtained high educational degree realize the importance of education and modern teaching methods may have the power to develop their children's performance. Students through several activities that are offered by the social institution in the neighbourhood, churches, and Mosques for example are able to develop and improve student achievement. When many of well-educated people engaged in these social activities, the encouragement of surrounding environment will be more positive and assist to develop a student's concept, values, and experience.

Ozughalu (2012) investigated the influence of parents' education on students' achievement in Nigeria. The study showed that parental education is directly correlated with students' academic achievement in Mathematics. The study also found that family size affect

student's Mathematics achievement, as higher SES families tend to have fewer children. The author also suggested that great effort should be made to decrease the number of children in the family to improve students' achievement.

There is no doubt that reducing the number of children helps parents to pay more attention towards the learning environment of their children especially with increasing the chance of obtaining more financial support and as a result increasing children performance.

Yan and Lin (2010) explored the relationship between American parents' involvement in children's education and the academic achievement in Mathematics. The study discussed three dimensions of parents involvements which were family obligations, family norms, and parents information networks across four ethnic groups; Caucasian, African- Americans, Hispanics and Asian. In terms of family obligations, the study suggested that family obligations have positive impact on 12<sup>th</sup> grade Mathematics achievement. The findings indicated that families engaging in school topics with their children and participating in the school activities have a significant impact on students' achievement.

Caucasian parents were more concerned in this point among all other groups. The effect of parent information networks was also positive with the Caucasian students who were more interested to know their children works at school and share with African American on need to know the friends of their children which reflected positively on the academic achievement. The effects of family norms were associated positively with Mathematics achievement among all groups into two types. The first is parent's high expectation towards students' achievement and the second is parent-teen ager relationship which considered the power of Mathematics achievements.

However, not all studies reached the same similar results. For example, Yavuz (2009) examined the factors that influence Mathematics achievement in Secondary schools in Turkey. The study population was 23,895 students who took the Secondary Education Institution Exam in Turkey. The study sample consisted of 310 students who were randomly selected from the study population. The results found that parental education has a significant impact on students' achievement. Fathers' education increases the family income. However, mother education does not affect. Although several studies have proved that there is a significant relationship between family income and academic achievement. The study showed that family income has no impact on Mathematics achievement as well as mother's and father's education. In this case, the reason may be related to other factors such as the school climate, teachers' practices, or curriculum design.

Perry and McConney (2010) used a large international data (PISA) to investigate the relationship between students SES, schools SES, and self-efficacy and Mathematics achievement among 15 years old students in Australia. The findings suggested that students with high level of self-efficacy and high level of school SES have strong achievements in Mathematics. They also mentioned that high students' achievements is related with access to more academically challenging curriculum and supportive learning environment comparing with low SES schools. The results also indicated that there were a strong relationship between Mathematics achievement and school SES for low SES students who have high levels of self-efficacy and weak relationship for high SES students with low level of self-efficacy. The authors explained that lower SES students in Australia are forced to enroll in the public schools in working class neighbourhoods which may have few resources and lack the supportive learning environment.

This point of view is supported by another study which was conducted in Pakistan in Secondary school by Farooq, Chaudhry, Shafiq, and Berhanu, (2011) to examine different factors that affect the academic achievement in Mathematics and English. The data was collected from year ten students using a questionnaire gathered from 300 male and 300 female. The results asserted that the higher level of SES is the key element that associated with students' achievement. The level of parental education also has a significant impact on students' academic achievement. Lastly, parental occupation has little influence on student's performance. It is clear that the social and economic position in Pakistan is very bad especially after the event of eleventh of September which has had the negative impact on the political and social situation in the country. As a result, spending on educational field is not compatible with need of the educational environment.

Ozturk and Singh (2006) investigated the relationship between Socioeconomic Status, previous Mathematics achievement and parental involvement and Mathematics course taking. The data was collected from the National Educational Longitudinal Study: 1988 database in the U.S.A. The results indicated that SES has no direct impact on Mathematics course taking. The study also found previous achievement in Mathematics has a significant effect on Mathematics course taken. In terms of parental educational involvement the study illustrated that high positive correlation between parental educational expectations for their children and students educational aspiration. However, high parental expectation may affect negatively their children's achievement when these expectations do not correspond with children mental abilities or their Mathematical skills.

Demir, Kilic and Depren (2009) investigated the relationship between economic, Social, and cultural status (ESCS) and Turkish students achievement in Mathematics in

Secondary schools. The sample was Secondary school students from 158 schools. The result indicated that ESCS status have strongly positive influence on students achievement. The study proved that high ESCS parents lead their children to attend college and obtain higher status careers.

Schiller, Khmelkove, and Wang (2002) examined the relationship between social background and economic situation and student's Mathematics achievements among 34 nation respondents in TIMSS study about participants' family structure and parents' education. The sample used for this study consisted of 219,402 students with an average of 6,453 students from each nation. The results demonstrated that students' achievement is not associated with the fact that students who live with their both parents achieve high scores comparing with those students who live with one parent. The results suggested that type of family does not affect students' Mathematics achievement. The study also indicated that the economic progress contribute to reduce the impact of social background by reducing the social and incomes pressure on the family and exchange their focus towards educational achievement. At the same time, the capacity of the individual and the extent of motivation are the two elements that control the students' achievement.

In Saudi Arabia, for example, the role of the family is very important which make living with single parent unbelievable. Children in Saudi Arabia are often linked with their parents and they continue to live with them in the same house until after marriage. Providing a fit job is the only thing that makes children decide to abandon their original house.

In fact, Socio-economic status affects students' achievement through many elements. The social environment carries an important role in providing the students with the basic

social skills. These skills develop self-confidence and increase the acceptance emotion among individuals. The stability in a particular environment for a long time drive student to make a positive relationship with the community's members and lead to better psychological and academics position. Family income, parent's educational level, and living with both parents have their impact on students' achievement. Parent's expectation towards children performance must always be positive to increase the optimism and self-esteem level. Parents also must visit school regularly and ask about children performance and join some several of school activities. However, we should understand that all or some of these elements affect students' achievement depending on the social, cultural, and political state in each nation.

### **3.3.4 School Climate**

School climate is considered one of the factors that may influence students' achievement. School site, type, and size as well as school possessions of all the requirements such as computers, labs, library, and playgrounds which all help in providing appropriate educational environment is the today school that is desired by parents for their children. School staff such as teachers and school administration is an essential component which cannot be ignored because they are the only people who will teach students inside or outside the classrooms. They can make the school climate attractive or repellent.

The attention of the importance of school climate among researchers began long ago and later has become the field that should be taken into account when the need to examine students achievement. 1950 was the date of the beginning of the interest in school climate where its meaning attributed to the quality and character of school life (National School Climate Council, 2007). It is based on patterns of school life experience and reflects norms, goals, values, interpersonal relationships, teaching, learning and leadership practices, and

organizational structures (National School Climate Council, 2007).

Ulina and Moran (2008) investigated the relationship between school climate that included the quality of school facilities and students' achievement in English and Mathematics in the U.S.A. Teachers from 80 Virginia Middle Schools were surveyed and data on students' SES were gathered. Bivariate correlational analysis was used to explore the relationship between resources support, school facilities, school climate and students' achievement. The results illustrated that school climate plays a significant role in students' achievement. The study explained that if the schools lack the adequate environment and appropriate facilities which enhance the student's level of learning the level of achievement will be low. The study also showed that teacher's attitude, behaviour, and teaching style will be poor quality and underestimated to support students learning. Other factor such as students' violence increased the rate of uncomfortable in the school.

Perse, Kozina and Leban (2010) examined the effect of negative school factors such as aggression on students' achievement in Mathematics by using data from the TIMSS 2003 study. The results suggested that in the fourth and eighth grades, all students who have been subjected to any kind of aggression behaviour at school obtained low scores in Mathematics. Students who came from close, knit and collaboration society are more likely to get a suitable learning environment which may help positively. Students who are aggressive and socially rejected may not be getting adequate assistance from the school staff or their colleagues, which reduces their respect and attitude towards school, teachers and students and at the end, the subject itself.

Shin, Lee and Kim (2009) investigated the Mathematics achievement from the PISA 2003 data among three countries; Korean, Japanese, and American students. The results affirmed that across all three countries, school disciplinary climate was an essential predictor of Mathematics performance. The study found that school with academic traditions and strict regulations achieved the lowest level of behavioural and educational problems and put the entire focus on the educational development which reflected positively on the students' achievement. Schools that lack the discipline rules have no abilities to enforce the educational aspect among students and make the school ineligible environment to achieve its goals in the end of the year.

Feeling safe in schools powerfully protects student's achievement and develop their health. Many students today intend to avoid going to schools due to the increase of violence style among students. Schools administration and their domestic rules must ensure that students take the advantages of all the activities and facilities supplied with controlling student's behaviour and establishing the disciplines rules which save the student's right during school day

Several studies examined the impact of school size and quality on students' achievement and on school tasks. Lee and Loeb (2000) conducted a study in Chicago to examine the influence of school size on teachers and students. The data was collected from 5000 teachers and 23000 students from sixth and eighth grades in 264 schools through a survey. The results found that small size school is better for working where it is easy to manage, control students behaviour, and each member in the school staff has clear and specific work. Small schools sizes provide intimate relationships between students and teachers. All teachers take the responsibility for disciplining everyone, worry about students

failure, and with few students, teachers know their students well and their educational level. The study indicated that teachers have a positive attitude towards their students learning as a result students' achievement in Mathematics was better than their counterpart in middle and large schools. Small school can provide a safe place for students, more positive challenging environment, higher achievement and fewer discipline problems (Nathan & Febey, 2001).

Mark (2002) discussed the quality of schools where more than eight million children or one in five children in American school suffer from health problems in eyes, nose, and throat as a result of poor ventilation and spread of bacteria in such humidity climate and he describe that as "poor indoor air quality" (IAQ) (p.2). Mark concluded that poor indoor air quality makes teachers and students sick which decrease their performance and the rate of the absenteeism.

From the studies above, it is clear that the school climate is a vital element that may influence students' achievement. It is apparent from the literature that school facilities, students' behavior, and the design of school buildings may influence how students perform at school.

### **3.3.5 Teacher's Role**

Teachers are the basis of the educational system and the link between the school curriculum and students. The teacher manages the classroom activities and all appropriate procedures that achieve the subject targets. Tirosh (2009) stated that a teacher has often the authority to determine classroom practices and learning processes. According to Hattie (2003), teachers' knowledge, effective performance and educational equity among students in the classroom reflect 30% of the major sources of variance of the educational process,

while a student has 50% of the variance of achievement (see Figure 3.2).

Other surrounding variances such as principals, home, school and peer effect accounted for about 5% of the variance which is an equal proportion (Hattie, 2003). The figure below explains the percentage of achievement variance.

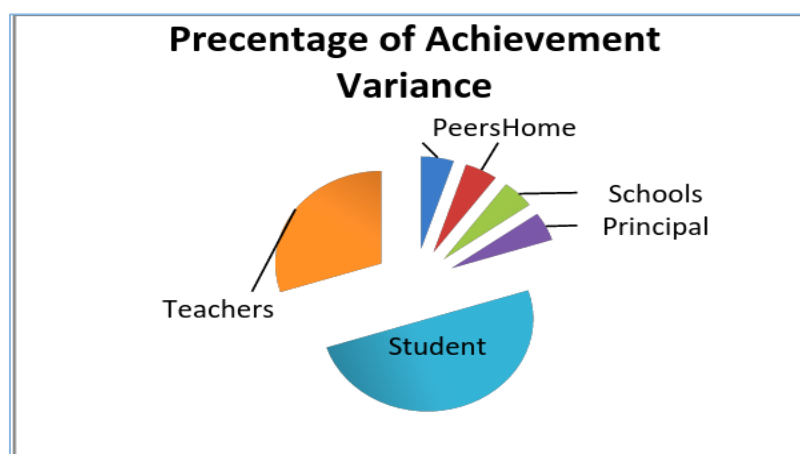


Figure 3.2. Percentage of Achievement Variance (Hattie, 2003)

The teacher is able to create an appropriate educational climate for all students and to deal with all cultural, cognitive and values that a student brings to the school (Walshaw & Anthony, 2009). Teaching requires a teacher who can build students' experience and develop their abilities as well as interest and motivation towards the subject (Tella, 2008). If the teachers lack such Mathematics knowledge and skills, they will narrow the students' perception of the facts, concept, structure and practices (Walshaw & Anthony, 2009). Therefore, teachers are expected to enhance their teaching skills, knowledge and ability to teach; hence, to understand when and how to use different techniques and make appropriate decisions needed for teaching (Loughran, 2010).

There are many requirements that all teachers must have before entering a classroom. Chapman (2010) affirmed that all teachers should be armed with in-depth Mathematical beliefs, knowledge and teaching style specific to Mathematics instruction. He clarified that there are many important roles that teachers must perform within the classroom such as facilitating the complex Mathematical problems and concepts to students in a simplified manner.

Teachers are required to be qualified for teaching and dealing with students. Saracho (2006) indicated that there are two kinds of teachers: teachers who always have the social skills and who focus on developing a relationship with the students, teachers and school's administration and consider teaching of secondary importance. These teachers have goals and specific methods but they lack the cognitive skills that help them to reach these goals. They may face problems with the students, teaching methods and curriculum. The second type is independent teachers who have specific goals and have the cognitive skills with adequate knowledge that assist them to overcome the tough problems in the classroom. Those teachers may focus on the theory only and ignore building a relationship with the students.

The literature examined the relationship between teachers and students' achievement. Walshaw (2012) indicated that students' low performance in Mathematics may be due to teachers' poor practices in the classroom. Battista (1994) noticed that what teachers know about Mathematics theory is crucial because it affects how they implement Mathematics in the class. He added that Mathematics curricula, in general, are mainly built upon instructional goals that teachers may disagree with or find different from their values about Mathematics. This may lead to contradictory beliefs about the fundamentals of

Mathematics and result in ineffective transfer of knowledge to students.

According to Nye, Konstantopoulos and Hedges (2004), the effect of teachers' practices on students' achievements in Mathematics is much larger than the school factors. Stake (2002) stated that the expression of achievement from the point of view of some teachers does not mean measuring students' skills or developing their capabilities but it means completing the curriculum and scoring well in the exams.

In conclusion, teachers and factors influencing their performance in class are related to students' achievement. Teachers are an essential component within the educational process. Some researchers explored and investigated few factors that might influence teachers' productivity and performance at schools. Researchers went further and analyzed each factor in-depth. This discussion, however, directs our attention also to researching teachers' satisfaction with their job and how that influences students' achievement.

### **3.4 Teachers' Job Satisfaction**

For more than thirty years, job satisfaction has become the subject of academic research as well as being of prime interest for decision makers and academic recruiters (Akiri & Ugborughbo, 2009). The expression "job satisfaction" emerged in the 1960s. Thereafter, the interest in conducting "job satisfaction" researches has increased among academics to the extent that some have specialized in this area alone (Boreham, Gray & Blake, 2006). Job satisfaction is how individuals perceive their jobs in terms of work nature, salary, promotion, co-workers attitude and the nature of their duties (Kayastha & Kayastha, 2012).

Teachers' job satisfaction is defined as an "affective attitude of teachers towards their role, derived from the evaluation of characteristics of the job itself" (Vrgovic & Pavlovic, 2014, p. 54). It is the individual's attitude and emotional reaction with aspects of a specific job (Bloom, 1986). He asserted that a teacher's job satisfaction is a complex fluid relationship between teachers and their working environment. In the definition Bloom (1986) recognized two types of factors that may affect teachers' job satisfaction: personal which is the individual attitude and ability to work and secondly contextual or environmental factors that may impact on teacher job satisfaction that include elements such as the administrative staff, school climate, and students' behaviour.

According to Gkolia, Belias, and Koustelios (2014), individuals are influenced by the working environment and at the same time they can in turn influence their working environment. In other words it can be a reciprocal relationship. They come to work holding attitudes and certain beliefs about teaching. This interaction includes the involvement with the school social system that includes the principal, other teachers, and students and their families (Nias, 1981). Hence, the working conditions as well as the personal abilities and beliefs are significant factors that may affect levels of teachers' job satisfaction.

Teachers' satisfaction often contributes to teachers' effectiveness and teachers' motivation which, in turn, lead to professional performance (Zembylas & Papanastasiou, 2004). Moreover, Ololube (2006) argues that teachers' job satisfaction may determine the success of any educational performance. Teachers with high levels of effectiveness can perform well in the classroom. Their teaching practices lead to changes in their students' development and they can implement the curriculum as intended. Those teachers are considered professionals in what they are doing as their actions may lead to change. They

know what they are doing and why they are teaching. This is what distinguishes effective teachers from ineffective teachers (Loughran, 2010). Therefore, all education departments around the world aim to improve the teaching environment for teachers because that would reflect positively on the high quality of education (Briones, Tabernero & Arenas, 2010).

Bishay (1996) illustrated that the importance of teachers' satisfaction makes it necessary to take into account the feelings of teachers during their daily work which is reflected on their students. However, there remains a need for further research that investigates the relationship between teachers' job satisfaction and the academic performance of students (Abdullah, Uli & Parasuraman, 2009). Teachers' levels of job satisfaction can contribute to the improvement of the educational system. According to Hosseinkhanzadeh, Hosseinkhanzadeh, and Yeganeh (2013) teachers' levels of job satisfaction is important to discuss because it affects the students' progress, quality of education and teaching stability. The quality of teaching and students' progress could be affected by the levels of satisfaction teachers feel in their jobs.

In Turkey Demirtas (2010) examined teachers' levels of job satisfaction and its relation to the quality of teaching. The Teaching Satisfaction Survey (TSS) was used. The study found that the high levels of job satisfaction may affect the quality of education received by the students. On the other hand, Caprara, Barbaranelli, Steca, Malone (2006) investigated how 75 Italian teachers self-efficacy was a determinant of job satisfaction and students achievement on teachers. They found no significance relation between self-efficacy and students achievement, however, the study found that teachers' job satisfaction was related to students' achievement.

From this, I come to understand that teachers' levels of job satisfaction may affect the quality of education delivered in a school and classroom and consequently student achievement. I have chosen to discuss levels of job satisfaction from two perspectives: personal which includes demographic factors and self-efficacy and contextual or environmental variables which includes economic factors, administrative support, and working stress. In the next section the researcher will discuss dimensions affecting teachers' job satisfaction.

### **3.4.1 Dimensions Affecting Teachers' Job Satisfaction**

Dimensions affecting teachers' satisfaction are the prime focus of this study. Based on the extensive literature review, the researcher identifies four dimensions. These four dimensions were chosen because they are identified from the literature review and from the researcher's own teaching experience.

The literature has mentioned a diversity of dimensions according to the teaching context. They were different in their methods and rational in their decisions for choosing such dimensions. Most of the literature examined these dimensions in relation to teachers' job satisfaction. In this research, the researcher is investigating job satisfaction in relation to students' achievement in Mathematics. I have chosen four dimensions to examine in Saudi Arabia: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour. This is because first, in Saudi Arabia we have two types of schools; rented and government schools. This is related to the working environment which may affect teachers' satisfaction in such buildings. This is along with teaching materials, classroom sizes and students' behaviour.

Second, concerning teaching efficacy, in Saudi Arabia, Mathematics teachers are of two types; they either have a certificate in Mathematics plus pedagogical knowledge or hold a Mathematics certificate in Mathematics' knowledge only and lack pedagogical knowledge.

Third, regarding administrative support in an environment such as the one mentioned above, how administrative support may affect teachers' job satisfaction level. It needs to be considered with research and investigation especially that the administrative role in the Saudi context is significant in terms of conducting teachers' evaluations and planning the school policies.

#### **3.4.1.1 Demographic Factors**

Previous research has suggested that there is a correlation between teachers' job satisfaction and demographic factors. Briones, Tabernero and Arenas (2010) indicated that gender, teaching experience and age are among such demographic factors. The majority of studies discussed in this literature found that women are more satisfied than men in their jobs (Briones, Tabernero & Arenas, 2010; & Bogler, 2005).

Briones, Tabernero and Arenas (2010) conducted a study in Spain. The study compared 68 Secondary school teachers working in culturally diverse settings to explain the job satisfaction by looking at demographic and psychosocial characteristics (gender, age, and teaching experience). The data was collected using a questionnaire that collected demographic factors and teachers' self efficacy was measured using the Teacher Interpersonal Self-Efficacy Scale (Briones, Tabernero & Arenas, 2010). The study found that age had a significant influence on seeking support from colleagues and using humor as

strategies of coping. The older teachers had fewer tendencies to use these two strategies as ways of coping. Teachers with longer teaching experience show greater tendency than less experienced teachers in using humor to cope in teaching. They found that female teachers are better than male teachers in class management and are more willing to ask help from their colleagues. These results were also supported by Bogler (2005) who investigated job satisfaction levels among male and female teachers in Israel. The researcher used a questionnaire to 930 teachers from 98 schools. The results suggested that male teachers have lower levels of job satisfaction while female teachers, on the other hand, have higher levels of job satisfaction. Female teachers were satisfied with all dimensions of their jobs such as self-fulfillment, internal conditions and their physical conditions.

Fairchild, Tobias, Corcoran, Djukic, Kovner, and Noguera (2012) conducted a study in the U.S.A that examined three hypotheses: whether teachers' job satisfaction is related to workplace demographics, to teachers' personal demographics, and whether teachers' job satisfaction is related to relational demography. The study used a secondary data analysis of a subset of teachers drawn from the private restricted that used Public School Teachers Questionnaire (SASS) administered by the National Centre for Educational Statistics (NCES). The data was collected from private and public, Primary and Secondary schools across the U.S.A. They found that in this study working for a male principal increases teachers' job satisfaction, male teachers were more satisfied than female teachers, supervisor support was related to increased job satisfaction, stress was related to decreased job satisfaction, student's' behaviour was related to decreased job satisfaction. Teachers were satisfied with teaching high school levels. Teacher experience positively influences teachers' levels of job satisfaction. These differences in personal demographic factors explain why I must pay attention to the demographic background of teachers.

However, not all studies reached the same conclusion, for example, in New York, Bishay (1996) conducted a study of 50 teachers who were surveyed to investigate teachers' levels of job satisfaction. The study found that female teachers were less satisfied with teaching than male teachers. The study also pointed out that female teachers found activities such as preparation, paper marking and paperwork challenging and difficult to manage. At the same time, there are also studies that suggested that there is no significant difference between male and female teachers with respect to job satisfaction. Lal and Shergill (2012) conducted a study in India to analyze the relationship between teachers' job satisfaction and working in a private and government schools, the relationship between teachers' job satisfaction and male and female teachers holding a college degree. The study also explored the impact of job satisfaction on teachers' attitude towards education. The study used a questionnaire that was called Job Satisfaction Scale (JSS) from 100 Secondary teachers. The study found no significant differences in teachers' levels of satisfaction among teachers from private and government Secondary schools. The study found no significant differences in job satisfaction and attitude towards education among male and female teachers.

The above studies highlighted the importance of the cultural context in determining levels of job satisfaction among male and female teachers. Teachers in all studies were from different countries. Therefore, they work under different conditions that may influence how male and female teachers perceive their levels of job satisfaction. In Saudi Arabia education is segregated, hence, the conditions that teachers work under are very different from what is mentioned in the above studies. It is expected to find that gender may play a significant role on how male and female teachers rate their levels of job satisfaction.

Another major demographic factor that researchers investigated was the relationship between teachers' years of experience and degree status with job satisfaction. Fraser, Draper and Taylor (1998) examined aspects of what may influence job satisfaction among beginner teachers and long serving teachers, with experience ranging from 5, 10, and 15 years, in Primary and Secondary schools. The data was collected from 250 Primary and Secondary teachers in Scotland. These dimensions included workload, salary, administrative support and support with student discipline. The study found that Primary teachers tend to be more satisfied than Secondary teachers. Teachers with long hours of service were less satisfied with their jobs. The study also indicated that male teachers were more satisfied with "influence over school policies" than female teachers while female teachers were more satisfied with "recognition of efforts" than male teachers. The study also found that Secondary teachers were less satisfied with "influence over school policies" than Primary teachers. Finally, Primary teachers recorded low levels of satisfaction with "balance between work and personal life". In the study above, long hours of services seemed to have a negative influence on teachers' levels of job satisfaction. There is also the class level taught that was a factor as the teachers in Secondary school were also less satisfied. It may indicate that teaching in Secondary school is a more of a challenge than primary levels. Finally, the study clarified how male and female teachers were different in regard to what type of job aspect that may influence their levels of job satisfaction. Male teachers were satisfied when they had control over school policies and female teachers were satisfied when their effort was recognized.

Years of experience in some research studies were found to have a negative impact on teachers' job satisfaction. For example, Akiri and Ugborugbo (2009) conducted a study in Nigeria to examine the relationship between teachers' career satisfaction and other

factors such as teachers' teaching experience, gender, and teachers' higher educational attainment. The study used the Tagged Teachers Career Satisfaction Questionnaire (TCSQ). The data was collected from 979 teachers in public Secondary schools. The study found a negative correlation between teachers' experience and their career satisfaction. Teachers said that they were not satisfied with their remuneration as the main cause of the dissatisfaction. They claimed that the longer they work the higher financial responsibilities they face and that the incremental increase of their salaries was very small. The study also found that female teachers were slightly more satisfied than male teachers.

The study conducted by Akiri and Ugborugbo (2009) also found that holding a high educational certificate or postgraduate qualification does not necessarily help teachers to be more satisfied because they feel that there is a vast difference between their educational level, their expectations and work realities. Teachers holding high educational certificates often have expectation of how teaching is represented. These expectations are built upon what they learned in their degree courses so teachers may feel dissatisfied when they find that what they have learned is too complex to be implemented in their teaching context at schools.

In Saudi Arabia, for example, there is a tendency among teachers holding higher levels of education to discontinue working at schools and to move to other sectors such as higher education or to work at the Ministry of Education in planning and policy making positions. They believe that they deserve higher positions than working as teachers only.

In Cambodia, Chhinh and Tabata (2003) conducted a study which found a relationship between teachers' job satisfaction, salary level, teaching experience and level

of educational attainment with the Mathematics achievement of urban Primary school students. The data was collected from a questionnaire and students' test results. The study suggested the existence of a positive relationship between teachers' experience and students' achievement. It also found that the economic status of teachers and their levels of satisfaction have a positive influence on students' achievement. Teachers' lower levels of education certification however have no influence on students' achievement. The researchers owe this to the extensive in-service training course that teachers received. In Chhinh and Tabata's (2003) study two issues stand out. The first was that teachers' socio-economic status may influence students' achievement. The second was that teachers' educational background seemed to have no influence on students' achievement. It seemed that when teachers are satisfied with their economic status, they perform well in their job. In this study the economic dimension is more significant in relation to students' achievement than teachers' educational background.

In private schools, results were consistent across different research studies. Tasdan and Tiryaki (2008) compared the level of job satisfaction between private Primary and state Primary school teachers in 2005-2006 in Trabzon in Turkey. The data was collected from a modified questionnaire called "Job Satisfaction Scale of Education Managers". The findings showed no significant differences present with respect to gender, years of experience and educational level. However, in Turkey, private Primary school teachers have higher job satisfaction than teachers in state Primary schools. According to teachers, the sense of satisfaction came from that fact that private schools were better than state schools in aspects such as salary, working conditions, organizational life, colleague, promotion opportunities, and job quality.

In Saudi Arabia however the opposite is true, private schools are better than government school in terms of working conditions and organizational life but not in salary. This is why in Saudi Arabia teachers are keen to work in government schools but not private schools. Teachers in private schools get 5500 riyals only with no increase, allowance, and a life pension. In the government school, they are paid 8500 riyals with allowance of 450 riyals every year and life pension. This indicates the importance of the financial dimension in teacher's life in Saudi Arabia.

According to Streana, Banerjee, Mickleson, and Moller (2014) socio-demographic composition of schools is related to the nature of population and area where teachers teach. In Jeddah Saudi Arabia there are some very poor and disadvantaged areas as well as well-designed advantaged areas and this may have an impact on teachers' levels of job satisfaction. The nature of the population in those areas is different in terms of behaviour, levels of education, and commitment to learning. Thus, it will be important to ask teachers in the survey to identify their teaching regions. Therefore, socio-demographic composition of the school was used in my survey to identify where teachers work. This will be significant in order to demonstrate if there is any relation between the social and economic area where teachers teach and their levels of job satisfaction.

In addition, Bloom (1968) found that teachers interact differently with their environment due to the fact that they often may come from different social and cultural background to the school where they actually teach. In a country like Saudi Arabia, where education is segregated between males and females, examining job satisfaction and its relation to demographic factors is essential in uncovering any potential differences between male and female teachers and their perceptions of job satisfaction which, in turn, may affect

students' achievement in Mathematics. This may result in rich data about differences in gender perspectives in regards to job satisfaction among teachers. In addition, from the studies above, the main demographic factors that may affect teachers' job satisfaction levels, in general, such as years of experience, level of teacher education and gender are significant. These dimensions will be included in the survey used for the purpose of this study. However, these demographic factors are only one of the components that this study will investigate as there are other dimensions of job satisfaction in the research literature.

#### **3.4.1.2 Administrative support**

Administrative support is the principal leadership style that is defined as “the principal behaviour in a working process, which influences all school performances” (Vrgovic & Pavlovic, 2014, p. 44). Principals are generally the people responsible for guiding teachers in their job and setting the school aims, targets and learning objectives. Grayson and Alvarez (2008) pointed out that outside interruption and administrative tasks that are assigned to teachers were identified as burnout factors that may affect teachers. School principals may play a great role therefore in reducing (or increasing) pressure on teachers. The role of school principal in Saudi schools is still very traditional compared to other countries. Principals have the power to distribute classroom periods between teachers and assign teaching duties. This is often organized without the teachers' agreement and usually imposed and teachers have to deal with it. They also have the power to send teachers to other schools to cover any staff shortage.

Therefore administrative support that a school offers may influence how satisfied teachers find their teaching career. In the U.S.A., Tickle, Chang, and Kim (2011) examined the influence of administrative support in public schools on teachers' job satisfaction and

their intention to stay in the job. Data was collected through the administration of school and staffing survey (SASS). The results showed that administrative support was a predictor of job satisfaction and teachers' job satisfaction predict teachers' intentions to stay in the job. Thus, they suggested that improving working conditions may minimize the rate of teachers leaving their jobs and in turn teachers staffing problem will decrease (Tickle, Chand, & Kim, 2011).

Organizational culture is identified in the below study as aspects of the school administrative support. Organizational culture is a collection of values, relationships, and standards that are presented within the organization (Hosseinkhanzadeh, Hosseinkhanzadeh, & Yeganeh, 2013). School is a social organization where learning takes place. Therefore, schools with a well-developed and strong organizational culture function more effectively as a positive learning community (Streans, Banerjee, Mickelson, & Moller, 2014).

Organizing the culture of the school depends on the school principal and the administrative team in the school as they are the people in charge of setting such values and policies for the school community. In Tehran, Hosseinkhanzadeh, Hosseinkhanzadeh, Yeganeh (2013), examined the relationship between the organizational culture and job satisfaction among 123 Middle school teachers using an instrument tool developed by Darabi's (2008) Organizational Culture Questionnaire. The study found that there is a positive relationship between how the administrative staff establish and promote their organizational culture, the school values and deliver them to teachers and the levels of teachers' job satisfaction.

To increase teachers' commitment to the educational organization and job satisfaction, teachers need to feel that they are important, valuable and functional in the school (Karsli & Iskender, 2009). Lent, Nota, Soresi, Ginevra, Duffy, and Brown (2011) conducted a study to examine the job satisfaction of 235 Italian teachers in Middle and Secondary schools. The researchers used special scales to measure teachers' satisfaction with self-efficacy, working conditions, work related goals, life satisfaction, and positive affectivity. The study found that teachers are likely to be satisfied when they perceived their school as fair, caring, and with a respectful work environment where they receive efficacy-building support from the principal.

Skaalvik and Skaalvik (2009) examined the relation between teachers' perception of the school context, teacher burnout, and teachers' job satisfaction. Participants were 563 teachers from Elementary and Middle schools in Norway. Four dimensions of the school context were examined (supervisory support, time pressure, relation to parents, and autonomy). The study found that if school principals take responsibility in matters where parents are involved and provide emotional support for teachers this may decrease the feeling of time and emotional pressure on the teacher (Skaalvik & Skaalvik, 2009). Moreover they found that principals should pay attention to dimensions such as pressure and social relationships with leadership as they are related to teachers' levels of job satisfaction. These are actions that the principal and the teachers' supervisors could take to reduce teachers' job dissatisfaction.

In Saudi Arabia, the concept of organizational culture is not widely implemented. In Western countries, this culture is developed and supported by the school principal so that their school values and mission are clearly established and conveyed such as growing,

caring, and achieving together. Saudi Arabian schools often lack a clear target of education for each school community. This may lead teachers to a state where they are uncertain about their goals and values.

### **3.4.1.3 Workplace Atmosphere**

The second dimension affecting teacher job satisfaction is workplace atmosphere or school environment, as mentioned in some literature discussed below, it “is a perceptual interpretation of how well organizational and managerial practices fit or match employee needs, goals, and expectation at a point in time” (Ozen, 2013, p. 61). School environment is “the social, developmental, and pedagogical contexts of the school in which teaching and learning occurs” (Huang & Waxman, 2009, p. 237) so the research literature identifies the following: workplace atmosphere as a dimension that may affect teachers’ levels of job satisfaction.

The working context has its needs and requirements that may assist or hinder the individuals to fulfil their working tasks. Moreover, the importance of studying such factors and its influence on teachers’ job satisfaction comes from the fact that such elements could be improved and changed (Skaalvik & Skaalvik, 2011). It also has an impact on the way teachers perform their duties and practice. Teachers may face stress because of workplace atmosphere which cannot help them with their duties. The challenges they may face include teacher shortage, class size, low salary, teaching load and poor environment.

School environment is also called school-based factors which Lam and Yan (2011) identified as being the most influential variables on teachers’ levels of job satisfaction. Their data was collected from two in-depth interviews with eleven teachers in Hong Kong

Institution of Education. Their study was a longitudinal design of beginner teachers in China to investigate the relationship between job satisfaction and school based factors such as non-teaching work load, equality in work distribution, and professional autonomy. The study found that how the school is run and managed influence levels of teacher job satisfaction and their motivation to teach.

Salary and the school economic state are dimensions that may affect job satisfaction among teachers. Better economic conditions are important in creating better conditions for teachers to work and continue teaching. In addition, the economic state of the schools is important in terms of providing learning facilities and suitable working conditions. Most of the literature supported this.

Teachers with high salaries tend to work longer as teachers while those with lower salaries tend to search for other occupations. In an attempt to address the issue of salary and its relation to teachers' job satisfaction, Lee (2006) examined school factors affecting teachers' job satisfaction such as salary, welfare conditions, school management and principal leadership and their implication on educational achievement by comparing two non-governmental Primary schools in Cambodia. The data was collected from a case study that involved classroom observations, survey, interviews, and focus group discussions. The result illustrated that salary, welfare conditions, school management, principal leadership, professional development, and sense of meaningful life as a teacher were the most important factors that affects teachers' satisfaction in their jobs. Moreover, Ololube (2006) conducted a study in Nigeria to explore and explain job satisfaction and teachers' motivation to work in relation to teachers' needs satisfaction for school effectiveness. The Secondary teachers who participated in that study were 680 teachers. They completed a

Teachers Job Satisfaction and Motivation for School Effectiveness Survey (TEJOSAMOQ). The results indicate that teachers were not satisfied with their payment and working conditions. They requested reasonable payment that could cover their essential needs such as health care and clothing. Teachers in that study felt cheated and insecure because they were underpaid. They believed that if these financial needs are fulfilled, they promise well performance in teaching.

In 2005, a study by Sargent and Hannum in China examined the factors that lead to satisfaction among teachers in poor rural areas. The study hypothesized that teachers working in schools with a high economic state and teachers with a light workload would be satisfied. The data was collected from a survey of 1,003 teachers teaching in Primary schools in Gansu, China. The study found that teachers are satisfied in schools with high economic states that provided all required teaching and learning facilities. The study also found that teachers remain in the job longer when they are paid on time and when there are greater opportunities for professional discussion and collaboration. In regards to workload, the study found that even teachers with heavy workload were satisfied with their job as they feel engaged and enjoyed what they were doing. In an attempt to identify the factors that lead to work stress among teachers, Dick and Wagner (2001) examined teachers stress among large samples of German school teachers. The data was collected using a questionnaire from 356 teachers teaching in Primary, Middle, and High schools. The finding showed that workload was an essential factor that led to stress.

In an opposition with this argument, teachers from North Carolina USA engaged in a study conducted by Murnane and Olsen (1990) to clarify the relationship between the continuation of teachers in their careers and the remuneration of salaries. Data was

collected using a survey from 13,890 teachers in either Elementary or Secondary public schools. The results indicated that an increase in salary significantly reduced turnover among beginner teachers. Moreover, the uniform salary scale may create difficulties in retaining teachers especially in Mathematics and Physics because teachers in such domains tend to work in industrial and more prosperous occupations.

Additionally, Ninomlya and Okata (1990) summarized the report of the Japanese National Council on Educational Reform. The report commented on what Japanese teachers needed to be satisfied in their jobs. It concluded that the government needs to improve job satisfaction for teachers by reducing the class size, increasing training courses and increasing the salary. Abdullah, Uli and Parasuraman (2009) conducted a study to provide evidence on the differences of job satisfaction levels among Secondary school teachers in Sabah and Tawau, Malaysia. The data was collected from 200 Secondary teachers using a survey. The survey assessed the levels of job satisfaction with respect to the following factors: work conditions and payment. The result showed that Secondary school teachers, in Tawau Malaysia, were satisfied with their teaching job as a career. However, teachers were not satisfied with the poor payment they receive and working conditions especially in the rural schools.

Moore (2012) conducted a study in U.S.A. public schools which investigated the relationship between school environment and teachers dissatisfaction. The data was collected by the National Centre for Educational Statistics from 38,000 teachers teaching around the U.S.A. The results showed that school environment is one of the most important causes of dissatisfaction among public school teachers. The study suggested that a motivating teaching environment and giving teachers the opportunities to develop lessons,

homework and control students' behaviour are crucial dimensions that lead to increasing teachers' satisfaction.

Salary and working conditions therefore affect teachers' job satisfaction. It is essential to consider methods of increasing productivity among teachers by increasing salaries and creating a healthy environment for them to work in. In addition, the quality of school resources is a significant factor because schools in Saudi Arabia still suffer shortage in resources identified in building types and technology facilities. Teachers need to have all the facilities that would assist them with their teaching.

Stress is a physical and a mental demand that makes individuals feel the pressure to perform certain duties that are required by a certain position (Ostrolf, 1992). Teachers encounter different types of stress caused by either social or practical demands (Chudhry, 2012). They may face stress because of the workplace atmosphere that lacks what they need to facilitate their teaching process. The challenges they may face include teacher shortage, the ability to teach, class size, teaching load, poor payment, inadequate time, and poor environment (Chudhry, 2012). Stress can act as a burden that may hinder teachers performing well and achieving their teaching goals. Many researchers discussed how stress can affect job satisfaction among teachers and explored its relationship with students' achievement. The relationship proves to be negative and stress may affect teachers' desire to effectively teach in the class. The source of stress were: students' behaviour which is resulted from teachers and students relationships at school and lack of support to improve this relationship may affect teachers and were often associated with teachers' level of job dissatisfaction (Veldman, Tartwijk, Brekelmans, & Wubbels, 2013). A study by Ferguson, Frost and Hall (2012) identified the most important occupational pressures that increase the teacher's

anxiety and depression and the reasons that may lead to teachers' job dissatisfaction. The data was collected using a self-report teacher stress questionnaire 274 teachers in northern Ontario. They noted that workload, student behaviour and employment conditions were the most common reasons attributed to occupational stress. The study also found that stress and depression may cause job dissatisfaction (Ferguson, Frost & Hall, 2012).

The same results were concluded by Kayastha and Kayastha (2012) who examined the extent of interrelation between the job stress and job satisfaction among higher Secondary school teachers in Nepal. The data was collected using a survey called Occupational Stress Questionnaire OSI. The study found that a majority of the participants have a moderate level of job satisfaction. There was a relationship between stress and job satisfaction. The study found that high level of stress can lead to reduction in job satisfaction among teachers. The source of their stress can be a result of workload, promotion, and payment.

Job satisfaction often depends on the person's educational background. In the Middle East, Al-Mohannadi and Capel (2007) focused their study on exploring the causes of stress among teachers in Qatar, at the beginning and end of the school year as well as any changes over the course of the academic year. Data was collected using a questionnaire from 401 teachers. The results indicated that there are no differences in stress levels at the beginning and end of the school year. The causes of stress were workload, curriculum and students' behaviour. The study also indicated that handling work stress may vary according to the teachers' personality and their ability to deal with different working conditions. Teachers who taught in different educational contexts and moved from one school to another may gain skills important to dealing with teachers and students from different

educational and social backgrounds.

A study by Mau, Ellsworth and Hawley (2008) examined how stress may influence teachers' decision in remaining in their teaching career. It tested job satisfaction and continuity in among beginner teachers. The data was based on National Educational longitudinal survey of 1988 in the U.S.A. The beginners were more satisfied compared to those in other occupations. Also, teachers with teaching licenses (higher education qualifications) tend to be more satisfied than teachers without teaching licenses. This may be true because teachers who obtained their licenses would feel secure and teach with confidence.

Work stress can be caused by students' behaviour and working load. Experiencing stress may vary from one teacher to another depending on their teaching experience and context. From the literature identified in this area, I conclude that stress may cause teachers' job dissatisfaction. In Jeddah, Mathematics teachers have around 25 periods a week to teach. They also face large classrooms sizes. This may cause high workload and affect their levels of satisfaction. These two elements were identified and included as aspects of job satisfaction that this study will explore and investigate among teachers in Jeddah, Saudi Arabia.

Workplace atmosphere is one of the dimensions that this study will focus on. Class size, quality of buildings and the availability of teaching materials and facilities are essential for quality and effective teaching. In Jeddah, as explained in Chapter Two. Most government Middle schools are rented and lack appropriate learning facilities and convenient environment. The availability of resources in the school may affect teachers'

practice in the classroom (Moran & Hoy, 2007). Students in each class are of large numbers in very small rooms that reach around 35 and in some cases 40 students.

Teachers who work under these conditions may experience challenges in terms of class management, unsatisfactory administrative interaction, and poor teaching resources. It is important to investigate if teachers' job satisfaction is being affected by such environment or not. This also will be discussed further in relation to students' achievement in Mathematics.

#### **3.4.1.4 Self- Efficacy and Motivation**

The third factor is self-efficacy, which is the ability to employ behavioural, motivational, cognitive and social skills to serve certain purposes (Bandura, 1993). In education, it is defined as the teacher's sum of skills and teaching knowledge that may affect their ability to teach and may influence teachers' commitment and practice in the classroom (Moran & Hoy, 2001). Mastering teaching efficacy in teaching therefore has an impact on increasing teachers' job satisfaction. This is because such competence affects teachers' effectiveness and their achievement of their teaching goals. It also has a direct relation to students' progress in the classroom. This competence reflects in their confidence in their ability to teach and appropriately deal with diverse students (Caprara, Barbaranelli, Steca, & Malone, 2006). Self-efficacy assists teachers in teaching and enhancing students' knowledge and skills (Gavora, 2010). According to Bandura (1993), self-efficacy in teachers marks the differences between possessing knowledge and being able to use knowledge under different circumstances. "The belief that one is able to master specific tasks enables people to perceive difficulties as challenges and prevents preoccupations from interfering with carrying out plans, and helps one focus on problem and make the best use

of one's capacities and the available resources" (Caprara, Barbaranelli, Borgogni, & Steca 2003, p.821). The ability to apply self-efficacy skills depends on different conditions such as the nature of the task, the circumstances under which an individual works, the way individuals construct and organize knowledge and the way they perceive their abilities (Poulou, 2007).

Caprara, Barbaranelli, Steca, and Malone (2006) conducted a study that investigated teachers' self-efficacy as determinants of job satisfaction and students achievement in Italy on 2000 teachers from 75 Italian high schools. Data was collected using a self administered questionnaire to evaluate self-efficacy and their students' grades were collected in two years. They found a significant relationship between teacher self-efficacy and students' achievement and job satisfaction. The study suggested that teachers with high levels of self-efficacy are more able to handle teaching challenges and can function effectively inside the classroom. It also has a direct relation to students' progress in the classroom. This competence reflects in their confidence in their ability to teach and appropriately deal with diverse students (Caprara, Barbaranelli, Steca, & Malone, 2006). In addition, Wang, Hall, and Rahimi (2015) evaluated the hypothesis that greater self-efficacy should lead to more adoptive causal attributions, how an individual explains and understand why things happen and how this may influence his or her future actions and decisions, and in teachers that in turn are expected to predict better adjustments. The second hypothesis is that teachers who attribute their stress to factors controlled by others have high levels of burnout and low levels of job satisfaction. There were 523 teachers teaching in Primary, Middle, and Secondary schools in Canadian provinces Quebec and Ontario who participated in a self-reported questionnaire. The results suggested that self-efficacy is an important predictor of psychological and physical health in teachers. Teachers with strong beliefs in their ability to

engage students in learning reported high levels of job satisfaction and less illness. It also suggested that teachers with low levels of self-efficacy were dissatisfied with their teaching job and suffered from high burnout. Thus, one of the research questions in this study relates to how teaching job satisfaction affects teachers' performance and students achievements in Mathematics.

Studies have identified a relationship between self-efficacy and job satisfaction. For example, Lee, Dedrick and Smith (1991), study was exploring links between job satisfaction and self-efficacy in one hand and school's social organization in the other hand. The data was collected from 8,844 full time teachers teaching in Secondary Catholic schools in the U.S.A. The researchers used the Administrator and Teacher Survey. The study indicated that there were some elements of the school's social organization that relate to teachers efficacy and satisfaction. Teachers are more efficacious and satisfied when they have control over their own classroom practices; and that teachers control is related to teachers' qualifications. Strong authoritative and well organized principals have a positive influence on teachers' satisfaction and efficacy. The study showed that teachers who work under a strong leadership have strong control on their classrooms.

Another study that shows the relationship between teachers' satisfaction and self-efficacy was that of Somech and Zahavy's (2000) study, which was conducted in Israel, explored the relationship between extra-role behaviour, self-efficacy and job satisfaction. It looks at one aspect of teachers' self-efficacy which is extra-role behaviour. Extra-role behavior is the extra behaviour that an individual may perform and not considered a requirement but something extra (Somech & Zahavy, 2000). The study examined three levels of extra-role behaviour of self-efficacy which were; extra-role behaviour towards

students, towards the team and towards the organization as a unit. Data was collected from 251 teachers teaching at Elementary schools. The instrument was a questionnaire in which teachers choose from a seven points Likert- type scale and semi-structured interview with 25 teachers. The study found a positive relationship between extra-role behaviour and job satisfaction as well as self-efficacy. The results also suggested that teachers with self-efficacy were able to deal with other teachers, students and the school administration. This increased the teachers' feelings of satisfaction and their ability to perform their duties in a more effective manner. Moreover, Caprara, Barbaranelli, Borgogni, and Steca (2003) examined the relationship between self-efficacy and teachers' job satisfaction. Teachers were from 103 Junior schools in Italy and completed a questionnaire that consisted of 90 items. Results indicated that self-efficacy and collective-efficacy beliefs were the main determinants of teachers' job satisfaction. Teachers, who held strong belief about their self-efficacy, had high levels of job satisfaction.

The study conducted by Caprara, Barbaranelli, and Steca (2003) not only aligns with the findings of Somech and Zahavy (2000), but it also related teachers' self-efficacy with students' achievement. The results indicated that work satisfaction is highly related to teachers' level of self-efficacy. Teachers with high self-efficacy can cope with various situations, improve their performance and have the ability to communicate effectively with those around them. Moreover, teachers with high levels of self-efficacy were able to engage students in the learning process and deliver the curriculum more effectively.

Klassen and Chiu (2010) went further in this type of investigation as they included gender and experience and their relationship to self-efficacy and job satisfaction. They investigated the relationship between teacher's experience, teachers' characteristics which

involved gender and teaching levels, self-efficacy which included instructional strategies, classroom management, students' engagement and lastly two types of job stress which were workload and classroom stress. A survey was used to collect data from 1,430 teachers teaching in Kindergarten, Primary, Junior-High, and Senior-High schools (Year 7-12) around Canada. The findings surprisingly revealed that there is no relationship between self-efficacy and teachers experience. Moreover, teachers with high workload stress, which includes too much work to do, having extra responsibilities, large class sizes and being responsible for students' achievements had greater classroom management and self-efficacy while teachers with greater classroom stress, which includes maintaining class discipline, impolite behaviours and noisy students had lower self-efficacy and lower job satisfaction. Female teachers who experience stress from workload and students behaviour had lower classroom management self-efficacy. Teachers in elementary and kindergarten had higher levels of self-efficacy for classroom management and students engagement. Lastly, the study concluded that being satisfied with teaching was indeed related to self-efficacy (Klassen & Chiu, 2010).

Kersaint, Lewis, Potter and Meisels (2007) examined the factors that correlated with leaving a job and job continuation. The study revealed six factors affecting Mathematics and Science teachers' retention which included family responsibility, time with family, administrative support, financial benefits, assessment and joy of teaching. The data was collected using a survey with former teachers from two large school districts in Florida who left teaching in 2002, 2003, and 2004. Teachers were teaching in 130 Elementary, 72 Middle and 42 High schools. The study found that time with the family, family responsibility, and administrative support are of great importance to teachers who left than teachers who stayed. They left because of lack of support from their administration and

problems with discipline. Financial benefits were also of great importance to teachers who left than those who remained. Most teachers left teaching because they found higher paid jobs. Assessment and paperwork was a source of stress to both teachers who left and remained. Joy of teaching was found to be of low importance to teachers who left teaching. However, the researchers drew attention to the fact that if the six mentioned factors were adequately addressed, teachers would find teaching joyable and maintain in their jobs. The research concluded with recommendations to design developing programs that can rehabilitate teachers to work in the teaching industry and to retain them in their jobs. This research pointed out the importance of preparing in-service and pre-service teachers for the work environment.

This preparation process should involve equipping teachers with skills and knowledge that may increase their motivation and enable them to teach and deal with different challenges including teaching Mathematics, dealing with students and managing classrooms. This may in turn motivate teachers to continue teaching because they are satisfied with their teaching practices.

The study highlighted a number of dimensions that may influence teachers' level of job satisfaction and motivate them to continue teaching. These dimensions are related to social and financial support and draws attention of researchers and policy makers to such dimensions to be considered with further research and reform.

Motivation is one dimension that may affect teachers' job satisfaction in teaching. According to Ololube (2006):

*“Satisfaction and motivation to work are very essentials in the lives of teachers because they form the fundamental reasons for working in*

*life while almost every teacher works in order to satisfy his or her needs in life, he or she constantly agitates for need satisfaction. Job satisfaction is defined, in this context, as the ability of the teaching job to meet their needs and improve their job teaching performance” (p.1)*

Teachers’ motivation is defined as

*“Reasons that emanating from individuals’ intrinsic values to choose to teach and sustaining teaching, and the intensity of teacher motivation which is indicated by effort expended on teaching as influenced by a number of contextual factors” (Han & Yin , 2016, p.3).*

Extrinsic motivation such as financial reward, promotion and praise motivates teachers to work more effectively (Middleton & Spanias, 1999).

In the field of motivation and teaching, Watt and Richardson (2006 - 2012) have conducted empirical studies across countries to discuss what motivates individuals to become teachers. In 2006, they conducted a study to identify why individuals choose teaching as a career in Australia, in New South Wales and Victoria. The population included 1653 participants. The results indicated that teachers choose teaching because of their teaching abilities, beliefs, personal and social values and positive prior experiences of teaching and learning. These included the desire to shape the future, make a social contribution, work with children, and job security. In 2008, Watt and Richardson explored what motivates undergraduate student teachers to choose teaching as a career. The results suggested that there are two types of perspectives. First, the individuals who considered teaching as their life career did so because they have a commitment and believe in their teaching potential. Second, the individuals who did not consider teaching as their career did so because they found that teaching is not the right career for them and that may be because of lack of adequate support and confronting practicum experiences at schools. Hence, it is clear that without adequate support, beginner teachers may lack the confidence needed to

increase the level of self-efficacy and their abilities to handle the educational reality (Murshidi, Konting, Elias & Fooi, 2006). This suggests that there is a relationship between motivation and teaching efficacy. In order to motivate teachers to teach, teachers need to increase their teaching efficacy and ability to practice teaching. This may lead to higher levels of confidence and willingness to handle teaching challenges.

In 2012, Watt, Richardson, Klusmann, Kunter, Beyer, Trautwein and Baumert investigated why teachers in Australia, the United States, Germany and Norway choose teaching as a career. They found that teachers in the study chose teaching because teaching can offer job security, time for family, may enhance social equity, a social contribution and opportunity for social influence.

Self-efficacy and motivation can contribute to job satisfaction. According to Bandura (1993), individuals with high levels of self-efficacy can overcome different types of difficulties and challenges. This is because they never doubt their abilities and continue working with a strong belief that they will control the challenges they face (Bandura, 1993). Thus, teachers with high levels of self-efficacy can effectively employ all their knowledge and skills in teaching and master all the social and instructional tools required for better teaching. Therefore, they have the motivation to continue because they are confident in their teaching qualifications and academic performance in the content of their subject and classroom management. This leads them to feel satisfied with their teaching career.

This study will be looking at teaching efficacy among Mathematics teachers and its relationship to teachers' levels of job satisfaction and students' achievement. In Saudi Arabia, teachers face different challenges that may require self-efficacy, which means

applying pedagogical and content knowledge in the classroom.

Some Mathematics teachers in Saudi Arabia lack pedagogical knowledge in Mathematics. This might affect their confidence and their ability to do their job well. Therefore, one major section of the survey used for this study will assess teachers' level of teaching efficacy.

### **3.5 Summary**

Based on the literature review, there are specific dimensions - demographic, economic, self-efficacy, motivation and work stress that are responsible for and may cause job satisfaction or dissatisfaction among teachers. They differ according to the context in which a study takes place. Each study has identified different dimensions of job satisfaction to investigate depending on their learning context. Each context has its own educational policy; hence, the dimensions were different. These differences helped me in choosing what dimensions of job satisfaction I need to measure in my chosen research context, Jeddah, Saudi Arabia. These differences also gave me an opportunity to examine how dimensions of job satisfaction were measured and assessed in the literature. It also informed the methodology this study will employ to collect data. Most of the studies used a quantitative survey method to measure teachers' job satisfaction levels.

The literature lacks clarification on the consequences that teachers' job satisfaction may have on the learning and teaching process. There are no empirical studies that explained the relationship if any of teachers' job satisfaction and students' achievement in Mathematics in Saudi Arabia, particularly.

Students' behaviour had been identified as a dimension of teachers' satisfaction but the relationship had not been investigated deeply enough. My proposed study will thus investigate students' behaviour as another dimension, the other dimensions being teaching efficacy, administrative support and workplace atmosphere.

Moreover, most of the above literature was conducted on teachers' satisfaction in Western countries. Thus, there is a need to have similar studies in developing countries, particularly in the Middle East and especially in Saudi Arabia as the country is in the process of upgrading and developing its educational system.

The literature that has been reviewed above has demonstrated the need for further research to examine the relationship between teachers' satisfaction and students' achievements in Mathematics. Specifically, job satisfaction of teachers in Saudi Arabia is an essential factor that requires investigation and research. It is a key element that may influence the quality of education offered to students in Mathematics classrooms. In the next chapter I present the methodology that will be used in this study.

## Chapter Four: Methodology

### Overview

In this section, I describe and explain the research methodology. This section presents the research paradigm and explains the reasons behind the choice of research paradigm. A detailed description of the research design follows and includes both quantitative and qualitative approaches. This involves a detailed description of data collection, participants' recruitment, translation, validity of each approach. Finally, the ethical issues are presented.

This methodology will explain the approach to answering my research questions:

1- To what extent are teachers in Middle schools in Jeddah, Saudi Arabia satisfied with their jobs in relation to the following dimensions that were identified previously by the literature as significant: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?

2- What explanations do teachers give in Middle schools in Jeddah, Saudi Arabia who were either satisfied or not satisfied in relation to the following four dimensions: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?

3- Do socio-demographic factors (gender, classroom level the teachers teach, teaching experience, school building type (government or 'rented'), school location, teacher's highest degree achieved, choosing to be a Mathematics teacher, view of own effectiveness, time spent on teaching Mathematics, and Mathematics courses

attended) affect teachers' levels of job satisfaction with respect to the four dimensions identified?

4- According to teachers' perceptions, how might their levels of job satisfaction be related to their students' performance in Mathematics in Middle schools in Jeddah, Saudi Arabia?

#### **4.1 Research Paradigm**

This research is a mixed methods research that employs both quantitative and qualitative approaches in the research design, collection of data, and analysis. Mixed methods research is a research approach where the researcher combines and mixes qualitative and quantitative methodologies in a single study (Johnson & Onwuegbuzie, 2004). Mixed methods are a mix between two research paradigms; constructivist and positivist views of the world (Creswell, 2003). The main reason for conducting this research is to obtain an understanding of the relationship between teachers' job satisfaction and any possible impact on students' achievement in Mathematics in Jeddah, Saudi Arabia from the teachers' perceptions, using a mixed survey of both quantitative and qualitative questions.

This required me to measure teachers' levels of job satisfaction in the four identified dimensions. This was achieved by using both quantitative and qualitative methods in data collection and analysis. I then investigated and assessed if the socio-demographic factors (gender, classroom level the teachers teach, teaching experience, school building type (government or 'rented'), school location, teacher's highest degree achieved, choosing to be a Mathematics teacher, view of own effectiveness, time spent on teaching Mathematics, and Mathematics courses attended) may influence teachers' levels of job satisfaction in the four

identified dimensions: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour. This was accomplished using quantitative method in data collection and analysis. Finally, the study explored teachers' perceptions in regard to how the teachers' levels of job satisfaction in the four identified dimensions might affect students' achievement in Mathematics. This was determined using qualitative method in data collection and analysis.

The rationale behind using mixed methods is that using either a quantitative or qualitative approach alone cannot explain the research problem that is related to teachers' job satisfaction and its relation to students' achievement in Mathematics in Middle schools in Jeddah, Saudi Arabia. A combination of both would provide a better understanding; a concept that is supported by Creswell (2003) who argued that the main reason for using both qualitative and quantitative approaches is the fact that they can offer a better understanding of the research questions than the use of a single method.

In quantitative research, I relied on numerical results obtained from a survey. According to Guba and Lincoln (1994), in quantitative research, an investigator aims to verify a hypothesis or answer a question by using empirical tools under controlled conditions. By using a survey in this research, I am aiming to measure the levels of teachers' job satisfaction among Mathematics teachers in Middle schools in relation to four job satisfaction dimensions (administrative support, workplace atmosphere, teaching efficacy and students' behaviour). The results in the form of numerical data will show levels of teachers' job satisfaction. I also examined if socio-demographic factors may influence teachers' levels of job satisfaction in the four identified dimensions.

Qualitative research is concerned with exploring and providing a detailed description of how the participants interact with their world (Guba & Lincoln, 1994). This is achieved by employing methods such as interviews, observations and journal writing (Bogdan & Biklen, 2003; Merriam, 2002). In this study, I am looking for answers about teaching satisfaction as perceived and viewed by the teachers themselves. The qualitative questions within the survey are used to elaborate and explain the choices of the quantitative data. They involved questions about teachers' perceptions of why they are either satisfied or not satisfied and if they think that their levels of job satisfaction may affect students' achievement in Mathematics. In addition, I want to understand and explain how teachers' job satisfaction may have impacted students' achievement in Mathematics. I sought knowledge from the participants (Guba & Lincoln, 1994) and each participant's point of view would be influenced by their own experience, gender and educational background (Kingge & Cope, 2006).

#### **4.2 Research Design**

In mixed methods research, three issues present themselves that the researcher needs to explain. They are implementation of data collection, priority and integration (Creswell, Clark, Hanson & Guttman, 2003; Creswell, 2003). Implementation refers to the method that is going to be implemented first. Priority means which one is the most important and given the most attention. Finally, integration means the way the data is going to be integrated; in this research quantitative and qualitative data presentation (Creswell, Clark, Hanson & Guttman, 2003; Creswell, 2003).

This study used the concurrent mixed methods design in which I employed both quantitative and qualitative methods at the same time to address the research problem

(Creswell, 2003). This means that qualitative method was used within a quantitative method of data collection. The quantitative, numerical data were collected to indicate the levels of job satisfaction among Mathematics teachers in Middle schools. The goal of the quantitative data is to measure teachers' job satisfaction levels with respect to four selected job satisfaction dimensions as derived from the Literature Review (see Chapter Three). They are administrative support, workplace atmosphere, teaching efficacy and students' behaviour. The qualitative data are to explain the choices of the quantitative questions. The answers are expected to explain why teachers are either satisfied or dissatisfied and from the teachers' point of view, and whether this affects student achievement in Mathematics.

The priority in this study design will be given to qualitative questions, because they will focus on in-depth explanation of quantitative answers by exploring why teachers are either satisfied or not satisfied with the selected four dimensions of job satisfaction and will this relate in any way to their students' achievement in Mathematics. The results, in addition to my interpretations, are presented at the end of the study in order to show the complete results of this research.

#### **4.3 Quantitative Questions**

The quantitative questions are used to answer the questions:

- 1- To what extent are teachers in Middle schools in Jeddah, Saudi Arabia satisfied with their jobs in relation to the following dimensions that were identified previously by the literature as significant: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?
- 3- Do socio-demographic factors (gender, classroom level the teachers teach,

teaching experience, school building type (government or ‘rented’), school location, teacher’s highest degree achieved, choosing to be a Mathematics teacher, view of own effectiveness, time spent on teaching Mathematics, and Mathematics courses attended) affect teachers’ levels of job satisfaction with respect to the four dimensions identified?

The first research question is designed to measure teachers’ levels of job satisfaction in the four identified dimensions. Teachers will answer 39 questions by choosing from range responses of to assess their overall levels of teachers’ job satisfaction with respect to the four identified dimensions of job satisfaction: administrative support; workplace atmosphere, teaching efficacy, and students’ behaviour. Teachers responded to survey items using a five point Likert scale where responses range from “*very satisfied*” to “*not at all satisfied*”. Each dimension is followed by a qualitative question to provide more explanation on why teachers are either satisfied or not with the nominated dimension of job satisfaction (see Appendix A).

The third research question is designed to examine if socio-demographic factors (gender, classroom level the teachers teach, teaching experience, school building type (government or ‘rented’), school location, teacher’s highest degree achieved, choosing to be a Mathematics teacher, view of own effectiveness, time spent on teaching Mathematics, and Mathematics courses attended) may influence teachers levels of job satisfaction in relation to the four identified dimensions of job satisfaction.

#### **4.4 Qualitative Questions**

The quantitative questions are used to answer the questions:

2 - What explanations do teachers give in Middle schools in Jeddah, Saudi Arabia

who were either satisfied or not satisfied in relation to the following four dimensions: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?

The second question is designed to elucidate teacher's own explanation to their overall rate of satisfaction with each dimension in the survey. This qualitative data was obtained through the qualitative responses on the survey.

4 - According to teachers' perceptions, how might their levels of job satisfaction be related to their students' performance in Mathematics in Middle schools in Jeddah, Saudi Arabia?

The last question is whether teachers find their levels of satisfaction influence or impact their students' achievement in Mathematics. This was the answer to the last open-ended question in the survey.

#### **4.5 Data Collection Instrument**

An online survey was used in this study to collect the data. It is a quantitative instrument that measured trends, attitudes or opinions of a specific group of a certain population (Creswell, 2003). The survey consists of 54 questions. The first group of questions are demographic questions that contained questions about age, gender, experience, location, school type, building and course attended, and then questions using measuring items such as *5-points Likert-scale* and an *open-ended* question. The survey questions were derived and replicated from two previous studies Patrick (2007) and Lester (1984). They both measured teachers' job satisfaction using a survey. Table 4.2 explains the source of each question in the survey.

The second section is about teachers' satisfaction with the administration support. The third section is about teachers' level of satisfaction with workplace atmosphere. The fourth section is about teachers' level of satisfaction with their teaching efficacy. The last section is about teachers' level of satisfaction with their students' behaviour. Each dimension is followed by a qualitative question to provide an in depth explanation on why teachers are either satisfied or not satisfied with the nominated dimensions of job satisfaction. The final question in the survey is an open-ended question about how might levels of job satisfaction influence students' achievements in Mathematics.

An informed consent (see Appendix A) was attached to the survey papers to sign. It explained the regulations and rules for participating in this study. It also explained that participating in this study was voluntarily and all participants and schools will not be mentioned by name at the research analysis level.

The dimensions are identified through my teaching experience, the analysis of literature, and theories of the main dimensions that may affect teachers' job satisfaction. Moreover, these dimensions are treated independently; each is presented in a separate section with related variables. These dimensions are:

1- Demographic Factors: includes age, years of experience, level of education, type of school, and training courses.

2- Administrative Support (AS): to understand how satisfied teachers were with school administrators: the principal, vice principal and academic staff. Questions about the following issues are included in my data collection instruments: level of

respect given to teachers from their administrators, amount of recognition teachers received for their efforts from their administrators in school, the support teachers received from administrators in the school, the degree of decision-making authority teachers are allowed in their job as a teacher, and the way administration communicates its policies.

3- Workplace Atmosphere (WA): included the teachers' satisfaction with colleagues, the availability of teaching materials, policies, and facilities. My survey included issues about the workplace atmosphere such as: the cleanliness and level of general maintenance of the school building, the use of space in the school building, level of stress teachers experienced in relation to their expectations on the school building, availability of teaching materials and equipment to use inside the classroom, and relationship teachers have with colleagues.

4- Teaching Efficacy (TE): measured teachers' satisfaction with their ability to teach and deliver the teaching content effectively. This includes questions about: training courses received to teach the content; capacity to influence student achievement; flexibility teachers have to be creative in their teaching approach; and the control they have over selecting student learning activities in their classroom.

5- Students' Behaviour (SA): to understand teachers' attitude towards students' performance and response to their teaching. It includes questions about: student's responses to teachers, a student's concern for performing well in assignments; degree of respect and good work habits practiced by students in their classroom; and degree of satisfaction with students' responsibility and discipline in their classroom.

This combination of questions helps me to achieve a full understanding of the overall levels of job satisfaction among teachers. It also enables me to understand any relation with respect to the students' achievement in Mathematics. The full survey questions are attached in appendix (A). Table 4.1 below illustrates the number of questions in the survey. Table 4.2 below indicates the resource of the survey questions. The survey questions were derived from Patrick (2007) and Lester (1984) studies.

Table 4.1

*Survey Questions*

Aspects	Elements	Items
Demographic Factors	Gender, teaching experience and earned degree.	Q1 – Q10
Administrative Support	School principal and vice principal	Q11 – Q19
Workplace Atmosphere	Teaching materials, policies and facilities	Q21 – Q30
Teaching Efficacy	Teachers' ability to choose the adequate methods to deliver the subject in the class	Q32- Q42
Student Behaviour	Teachers' attitude towards students' performance and response to their teaching	Q44 -Q52

Table 4.2

*Sources of Survey Items Used in this Study*

Survey Sections	Questions	Reference	Questions	Reference
A- Demographic Factors	Q1- Q10	-----	-----	-----
B- Administrative Support	Q (11-12-13-14-15-16-18)	Patrick, A.(2007)	Q (17)	Lester, P.E. (1984)
C- Workplace Atmosphere	Q (21-22-23-24)	Patrick, A.(2007)	Q (25-26)	Lester, P.E. (1984)
D- Teaching Efficacy	Q (32-33-34-35-36-37-38-40-41)	Patrick, A.(2007)	-----	-----
E- Students' Behaviour	Q (44-45-46-47-48-49-50-51)	Patrick, A.(2007)	-----	-----
Q (19-20-27-28-29-30-31-39-42-43-52-53-54) Developed by me				

**4. 6 Benefits and Limitations of Web-based Research**

Internet services have affected the field of research. Researchers started to explore the possibility of using the internet as a facility to collect data (Israel, 2009). In this research, I used a web-based survey to collect my data. It is a cheap and fast tool of data collection (Israel, 2009, Stewart, 2003, and Fricker & Schonlau, 2002). This survey was posted on the *Qualtrics* website that the faculty already paid for its license. The process of uploading the survey was fast and so reaching the web based participants. It was presented in an email or web link where teachers simply will need to log in and complete the survey.

The data management is easier than traditional methods that depend on pencil and paper as the computer has the ability to save all the information (Stewart, 2003). In this study, the web-based survey was managed through the website *Qualtrics* where I saved my data and was able to manage and check on participant numbers and quality of involvement with the research questions. It also sorted the type of data as the number of population required for this study is 200 plus teachers. It would be hard to depend on manual efforts. According to

Coomber (1997), web-based surveys may have the ability to sort the appropriate data that is ready for analysis and ease the packaging process of the data.

Web-based research also breaks geographical borders between the researcher and participants (Coomber, 1997, Stewart, 2003, and Steinmetz, Bianchi, Tijdens, & Biffignandi, 2014). The survey designed for this research is targeting teachers from different regions in Jeddah. Jeddah is a big city that includes five main regions; South, East, North, West, and Central regions. It would be difficult to reach teachers in these different regions in three months. Thus, a web-based survey will manage to collect the data from these different regions and reach all teachers there.

However, there are few limitations with the use of the survey in this research. As a developing country, people in Saudi Arabia may find answering questions using a software program not appealing or difficult. Zhang (1999) and Israel (2009) mentioned that age, web use, self-perceived ability to use the internet and the comfort with the survey may affect participants' decision to participate.

There is also the issue of representative sample which needed to be representative of the target teachers' population teaching Mathematics in Jeddah. However, this may be biased by people who may participate randomly without being actual target population. Using web-based survey makes it difficult for researcher to control who participates in the survey (Israel, 2009). This is a web-based survey and I posted my announcement in different social sites to recruit teachers to participate. Thus, the survey link was exposed on different social media websites. All teachers who have access to the link could therefore participate. To avoid this as much as possible, I posted my announcement on the Middle school teachers Regional

Office Websites and was specific about who should participate.

#### **4.7 Participants of the Study**

The participants of this study are from Middle public schools in Jeddah, Saudi Arabia. Students attending these schools (normally for three years grades 7, 8, & 9) would have finished their Primary school years and their next destination would be high school. 230 teachers who are teaching Mathematics in grades 7 to 9 participated in the research. The population included both male and female teachers in different schools from Western, Southern, Eastern, Central, and Northern regions in Jeddah. The aim was to include teachers from different schools; rented and government schools as well as teachers working in poor and rich areas as explained in Chapter Two. The criteria for selecting the participants includes: (1) being a Mathematics teacher; (2) teaching in Middle schools; (3) teaching experience is no less than one year.

Participants' recruitment began after the ethics approval was obtained. Middle school principals, from schools in Jeddah, were emailed to seek permission to post an announcement on the school website. Teachers were invited to participate in this study by posting the explanatory letter, which was translated into Arabic, on the website of schools and via Twitter and WhatsApp (see Appendix B). The announcement explained the study purpose and what was required from teachers if they choose to participate. The individuals interested in participating could go directly to the survey link which was stated in the explanatory statement. Hence, teachers interested could participate by accessing the link online. This ensured that no one in the school would know who exactly participated in the survey. This was important to protect the participants' identities. The process, from the time I submitted the survey via email to the time the researcher collected the surveys, took four months. This was because during the time of data collection teachers commenced their school holidays

which lasted for three months.

#### **4.8 Reliability and Validity**

This research study aims at measuring the overall levels of teachers' job satisfaction. All the questions in the survey were related to the research topic and measure four dimensions of job satisfaction: administrative support, workplace atmosphere, teaching efficacy, and students' behaviour.

The survey instrument was pilot tested on 20 randomly selected participants; both female and male teachers. The goal of the pilot study was to know how long it took teachers to finish the survey and to test the survey's reliability. According to Brener, Billy and Grady (2003), when assessing the validity of self-reported survey, I must examine cognitive and situational reliabilities. The cognitive reliability was to make sure that respondents understand the survey questions and the terms used and to make sure that they had the memory to recall their answers accurately. The situational reliability was concerned with the setting of the survey where the respondents fill the survey at school or at home (Brener et al, 2003). They need to feel safe and relaxed to complete the survey. "A perceived lack of confidentiality, anonymity or privacy within the situational context could also cause response bias because of a fear of reprisal" (Brener et al, 2003, p.437). The results of the pilot survey helped me to decide on the consistency of the instrument and reflect on and revise the survey. It also aimed to check if the participants understood the content of the survey and the wordings and terms were clear.

There were two main issues that need consideration when examining the validity and reliability of a survey: the internal validity and the external validity. Internal validity may be caused by the participants' misuse and misunderstanding of the survey (Creswell, 2003).

External validity exists when the researcher attempts to generalize the data interpretation beyond the group participated in the study (Creswell, 2003). These types of validity are obtained through the pilot testing of the survey. This would show if the same results would be obtained when the same survey is given to similar participants in the study. It also shows if there is any misunderstanding of the terms and words used in the survey. I have carefully completed internal and external validity tests and also cognitive and situational reliabilities to ensure the construct validity of the survey instrument. I am also determined to avoid making general claims about the research results. This is because the population of teachers participating in the survey is only 230.

#### **4.9 Validity of the Qualitative Data**

In qualitative research, data validity can be an issue. This is because the data is a production of multiple perspectives of both the participants and the researchers which are influenced by their own cultural and social status (Jones, 2007). Therefore, Maxwell (1992) argues that the validity of qualitative data is concerned with the account of the data and not the method.

According to Cohen, Manion and Morrison (2007), a researcher in qualitative methodology is required to present an in depth and breadth description of the elements used to collect data, describe the context in details, in addition to an honest transcription of what the participants stated in the study. This study provides a complete description of data collection, participants' recruitment, data analysis, transcription and translation process of data and this may strengthen the validity of the qualitative phase. I presented a thick description of how I collected and analysed data in Chapter Five.

#### **4.10 Translation and Transcription**

The main language in Saudi Arabia is Arabic. It is used in all government sectors as the official language. In schools, all subjects are taught in Arabic. Therefore, most of the participants cannot speak English well and have never been engaged in English conversations. Hence, I conducted the survey in Arabic. This gave the teachers the opportunity to feel relaxed and express their feelings in rich and meaningful language. This was because they master the terms and vocabulary of their first language and can be spontaneous when writing in Arabic. I wanted to ensure internal and external validity as well as cognitive and situational reliability of the survey; thus, I used a survey that was written in Arabic. This ensured that the participants would understand the meaning of each sentence and choose accurate answers.

The survey was originally written in English. I wanted to make sure that translating the survey would not change its meaning. Therefore, I asked an official Australian-Arabic translator to translate the survey into Arabic. Then, I compared both versions to ensure that meaning was not violated by the Arabic translation and to ensure equivalence in meaning. After that, I asked another translator to translate the Arabic version into English again to ensure that the meaning was not harmed by the first translation process from English into Arabic.

The data collected from qualitative questions was translated into English then analysed. This was because I was using thematic analysis. This involved data coding and labeling into patterns. This process was complicated and included a lot of meaning interpretation and drawing on raw data. Thus, I believed that it was better to undertake the whole process in English from the beginning. This would have assisted me in keeping records of the whole process in English. It would also provide consistency in data meaning that may

be changed because of different translations from Arabic to English.

#### **4.11 Ethical Issues**

The study was conducted in Saudi Arabia at public schools in order to examine teachers' job satisfaction and its relation to students' achievement in Mathematics. In this study, I was required to consider different ethical issues that were apparent in such a study. One main issue, which was actually the motive behind using a mixed method survey, was obtaining permission to interview female teachers.

In Saudi Arabia, there are certain regulations and laws that prohibit men from meeting women. This may hindered my study as I aim to examine both male and female perceptions on the issue of job satisfaction and its impact on students' outcomes. Thus, it was impossible to meet women in their schools as I am a man, who according to our culture and religious regulation is a stranger. The women were not able to talk to me or to meet me face to face. I considered phone interviews but this method may not work because women should seek their guardian's permission and the answer, in most cases, will be negative. This may also cause trouble to the female as the majorities are from conservative backgrounds (Hamdan, 2005). One way of doing this was to conduct a mixed method online survey in which female teachers answered all the questions for the study. This would provide a degree of convenience to all parties (me and female participants) and the data provided was of good quality.

Teachers interested to participate in the study, received a consent form with the survey to fill out. Informed consent was given to the participants to consider whether to participate or not to participate in any research study (Babbie, 2010). The consent form

contained information about the purpose of the study. It also contained information about the study conditions and how and when to withdraw from the study. I stated to the participants that their participation was voluntarily and that they were not paid in return. The participants were not required to identify their names in the survey as the researcher should provide his/her participants with a confidentiality form that ensured their safety and that their names were protected from being identified (Jones, 2007).

#### **4.12 Conclusion**

In this chapter, I explained and discussed the research paradigm and methodology. It was a mixed method research in design, data collection, and analysis. I also explained how I came to choose this approach for my research study. Then I presented the data collection instrument. I also discussed validity of data. Finally, ethical issues in regard to the context of the study and how these issues motivated me to use mixed method research was explained. In the next chapters, I introduce the data collection process and analysis.

## Chapter Five: Data Collection and Analysis

### Overview

In this chapter present a detail description of how data was collected and analysed. I start with my journey of data collection. Then, I describe the process of data analysis. This includes two types of analysis: quantitative and qualitative data analysis. In the quantitative data analysis I used two different methods of analysis: descriptive and inferential statistical data analysis. In the qualitative data analysis I used thematic data analysis.

### 5.1 Data Collection Journey

I started my data collection after I received the approval of the Monash University Human Ethics Research Committee (MUHREC) in June 2014. Before posting an announcement recruiting participants to participate in the survey, I needed to test the validity and reliability of my survey and to determine whether it was measuring what I actually meant to test. As I have never designed a pilot study, I sought assistance from the research community in King Abdul Aziz University in Jeddah. They directed me to a research office where a professor who is expert in such research and translation facilitated a pilot study with 20 teachers. As a result of the pilot study, I received feedback and suggestions for changes which were minor involving mostly language issues. I posted my survey on the *Qualtrics* Website provided by Monash University under the supervision of my supervisors.

The second step was to publish the announcement on the office regional websites. I met the Director of Education in Jeddah and explained to him that I need an approval letter from him to send to different regional offices to post my announcement. I received the letter after he took one week to examine the survey. This is because the culture of research is new

to the Saudi society. I assume that the Director wanted to know whether there was any issue with my survey and how much it may serve the educational purposes of the country. Unexpectedly, he did not ask for any changes and had no comments. He gave me a hard copy of the letter.

I sent the announcement with the approval letter to all regional offices in Jeddah. It was posted on each regional office website and on Twitter. It also was exchanged among teachers via the WhatsApp social media.

## **5. 2 Data Analysis**

Teachers used different devices to answer the survey. Most of the teachers used their smart phones to answer the survey. They also distributed the survey among themselves using the WhatsApp application; they opened the link and answered from there. This caused a problem. Teachers may find it boring to complete or did not want to give formative answers in the qualitative questions using a Smart phone device. A number of respondents only answered the first demographic section and then stopped. Others answered all of the quantitative questions and gave very short answers to the qualitative questions. However, at the end, I was able to obtain a considerable number of participants ( $N= 510$ ) but I considered only 230 because those were the group who completely finished all parts of the survey. They gave full answers to all questions and provided comprehensive answers to the open-ended questions. The rest did not complete the survey and stopped at different pages. This group of 230 teachers represents both genders and all taught Mathematics in Middle schools in Jeddah. They are from different age groups and from different regions in Jeddah. They also vary in their teaching experience as well as their educational backgrounds (See Table 6.1 in page 141). They therefore still meet the requirements of random sampling.

The analysis was divided into two parts: quantitative analysis and qualitative analysis. Regarding the quantitative analysis, descriptive statistical analysis and inferential statistical analysis were used. Descriptive statistical analysis was used in order to create the socio-demographic profile of the participants. Then, it was used to find means scores to compare between the four dimensions as which dimension teachers identified as the highest satisfied dimension. It was also used to find frequencies for teachers' levels of job satisfaction in the four identified dimensions of job satisfaction to answer the first research question. Inferential statistical analysis was used to examine how socio-demographic factors may affect teachers' levels of job satisfaction with respect to the four dimensions identified.

Qualitative thematic analysis was used to answers the second and fourth research questions. The following diagram (Figure 5.1) below clarifies the data analysis process.

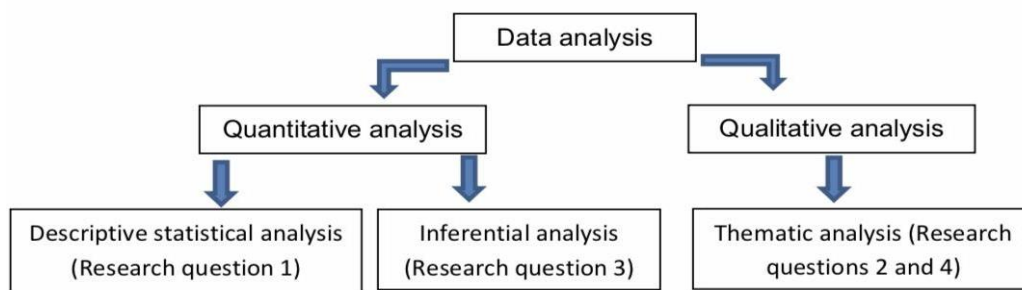


Figure 5.1. Approaches to data analysis

## 5.2.1 Quantitative Analysis

### 5.2.1.1 Descriptive Analysis

This is accomplished by collecting the survey papers, examining the answers and making sure that all questions were answered in a correct way and that the respondents had completed the entire survey. This entire process was in Arabic as it was impossible to

translate the survey papers into English after the teachers answered the questions. This may compromise the data as it depended on choosing from multiple answers. It may also complicate the analysis process and make the procedure longer than expected. The data coding was in numbers to determine the proportion of responses in each category.

The first type of quantitative analysis was descriptive statistical analysis. This was used to answer the first question of this research study: 1-To what extent are teachers in Middle schools in Jeddah, Saudi Arabia satisfied with their jobs in relation to the following dimensions that were identified previously by the literature as significant: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?

*Descriptive statistical analysis* describes and summarizes raw data in charts, tables, and graphs (Sheridan, 2010). It gives the researcher the opportunity to present the data in a meaningful way (Kruglak & Hayam, 1998). In this study, descriptive data was used to show the frequency distribution. This is to count the percentage occurrence of each score value in each class (Sheridan, 2010). The type of descriptive data analysis used was *measures of central tendency*. It describes a set of data with a single number which is a measure of central tendency that represents the average score achieved by a group of subjects (Reinard, 2001).

Frequencies were generated for categorical data and means for ordinal data. All quantitative data were entered into an Excel spreadsheet as coded data and then imported into IBM SPSS version 22 for Windows. Analysis was performed using tabulated descriptive statistics. The first step was to obtain descriptive data of the participants' socio-demographic backgrounds. A small number of participants from a specific socio-demographic background (location factor) were not considered in the inferential analysis but included in the descriptive

statistics; teachers from the Western Region were not included in the analysis as they were only 8 (3.5%) teachers. Likewise, in terms of holding a teaching degree, there were only 4 (1.7%) teachers holding a master's degree and, hence, were also not included in the data analysis (see Table 5.1).

Regarding the comparison of high levels of job satisfaction among the four dimensions, the total mean scores of the four dimensions were calculated and then compared to find the mode. The highest mean was taken to represent the highest dimension; i.e., dimension; that is, teachers were the most satisfied with was teaching efficacy.

Table 5.1

*Socio-demographic Information (N=230)*

Variable	Subclass	Frequency (%)
5- School location	East	64 (27.8)
	West	8 (3.5)
	North	51 (22.2)
	South	65 (28.3)
	Central	42 (18.3)
Bachelor + diploma in education		191 (83.0)
6- Highest degree achieved	Bachelor without diploma in education	35 (15.2)
	Master	4 (1.7)
	PhD	0

The 5-point Likert scale was used in this study to rate the level of satisfaction. The level of satisfaction for each item was coded into the following values: 1= not satisfied at all, 2= not satisfied, 3= neutral; 4= satisfied, 5= very satisfied. A descriptive analysis was used to produce percentages and frequencies. This is to gain an understanding of the teachers' levels

of job satisfaction regarding the four aspects: administrative support (AS), workplace atmosphere (WA), teaching efficacy (TE), and students' behaviour (SB). This analysis involved the examination of the central tendency and frequencies distribution of each item in each dimension in an attempt to understand teachers' levels of job satisfaction with respect to each dimension.

#### **5.2.1.2 Inferential Analysis**

The second type of quantitative analysis was inferential statistical analysis. This was used to answer the third question of this research study: Do socio-demographic factors (gender, classroom level the teachers teach, teaching experience, school building type (government or 'rented'), school location, teacher's highest degree achieved, choosing to be a Mathematics teacher, view of own effectiveness, time spent on teaching Mathematics, and Mathematics courses attended) affect teachers' levels of job satisfaction with respect to the four dimensions identified?

*Inferential statistical analysis* is measuring the reliability of a conclusion that was based on data drawn from a sample of population (Isotalo, 2014). It examines whether a data obtained from a sample of population would be the same if obtained from the entire population (Reinard, 2001). Methods such as point estimation, interval estimation, and hypothesis testing are all based on probability theory (Isotalo, 2014). In the *Inferential analysis* I used a *Mean* and *Standard Deviation* to compare the four dimensions of job satisfaction by socio-demographic factors (see Table 5.2). The *mean* was used to measure the data. It is the most frequent measurement used and calculated by adding up all the scores and dividing that total by the number of scores (Reinard, 2001). The *standard deviation* was calculated to find out how far away each score is from the mean, by subtracting the mean from each score (Sheridan, 2010). This was used to show levels of job

satisfaction with respect to the four dimensions according to teachers' socio-demographic backgrounds.

Table 5.2

*Mean and Standard Deviation for dimensions of job satisfaction by gender*

Dimensions of job Satisfaction	Gender	Number of participants	Mean	SD	Test statistic*	p-Value
Administrative support	male	126	3.81	.97	U =568	0.08
	female	104	3.63	.92		

Levels of job satisfaction among teachers were measured in relation to the following socio-demographic factors: gender, level of education taught, teachers' teaching experience, school building type, school location, highest degree achieved, choosing to be a Mathematics teacher, time spent in teaching, view of own effectiveness, and courses attended. The demographic factors were essential to consider in details to know if there was any significant relationship between teachers' educational and social background and being satisfied with the other four dimensions: administrative support, workplace atmosphere, teaching efficacy, and students' behaviour. To do so, *Normality* test was applied to check the distribution and power of the demographic factors sample in relation to the rest of the job satisfaction dimensions using the total means for each dimension.

It is important to perform *Normality tests* (see Figure 5.2) to determine if a data set is well-modelled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed (Yazici & Yolacan, 2007). To check the

normality in this research, *Kolmogorov-Smirnov (KS)* and *Shapiro-Wilk tests* were used (Razali & Wah, 2011).

*Nonparametric and parametric tests* (see Figure 5.2) were used to test the equality of means in different groups; in this case job satisfaction of teachers by various socio-demographic factors. Therefore, if the corresponding aspect is normally distributed, *t-test* and *ANOVA* were employed (Jamieson, 2004). On the other hand, if the aspects aren't normally distributed *Mann-Whitney* and *Kruskal-Wallis* tests were employed (Hart, 2001). *Dunn test* produces multiple comparisons following a *Kruskal-Wallis k-way test* (see Figure 7). It is the most suitable test following a *Kruskal-Wallis* test to measure the significance differences between participant groups (Isotalo, 2001). Moreover, *Tukey post hoc pairwise test* was used to compare between the two pairs of means (Dinno, 2015).

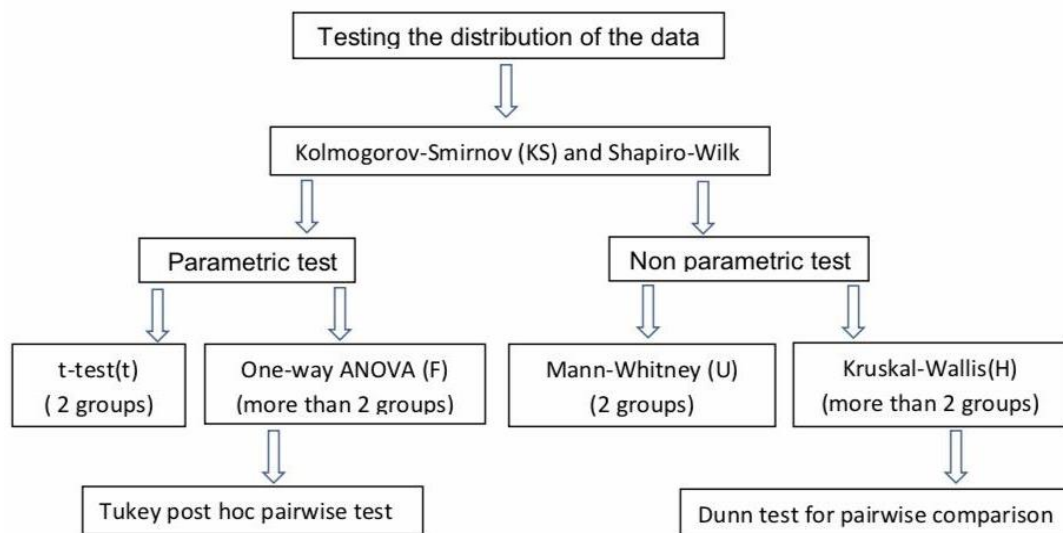


Figure 5.2: The Tests used in Quantitative Data Analysis

### 5.2.2 Qualitative Analysis: Thematic Analysis

Thematic analysis is a process of breaking data into patterns for the purpose of allowing themes to emerge (Fereday & Cochrane, 2006). I presented the data in separate sections under different themes. Finally, the qualitative data was interpreted in relation to the quantitative data results (Creswell, 2003).

Thematic qualitative data analysis was used to answer the second and fourth questions in this research study. Regarding the second question, answers were collected from the open-ended questions that followed each dimension in the survey (see Table 5.3). Participants were asked to elaborate on their choices of the quantitative data and give explanation that justify their levels of satisfaction with each dimension. Each dimension has a number of emerging themes in which teachers explained why they were either satisfied or dissatisfied with the dimension. Regarding the fourth question, answers were collected from the last open-ended question in the survey. Three main themes were generated from the analysis: salary and rights, maternity leave and female rights, and lack of teaching resources.

Table 5.3

*Open ended questions*

N	Items in Survey	Item Statement
1	Question 20 in Administrative support dimension	Could you please provide more explanation to your choice in item AS 19?
2	Question 31 in workplace atmosphere dimension	Could you please provide more explanation to your choice in item WA 30?
3	Question 43 in teaching efficacy dimension	Could you please provide more explanation to your choice in item TE 42?
4	Question 53 in student behaviour dimension	Could you please provide more explanation to your choice in item SB 52?

### 5.2.3 The Subjectivity of the Researcher

Before I discuss data qualitative analysis, I want to inform the reader that there are two main factors that may influence the way the data was interpreted by me and participants. These factors are my subjectivity as a Mathematics teacher and the subjectivity of the participants the teachers who answered the open-ended questions in the survey. In qualitative research reality is constructed by both the participants and the researcher (Graff, 2012). There are multiple realities that exist in qualitative research and reality construction is influenced by individual social and educational background (Creswell, 2007). This could be discussed in regards to me and the participants in this study.

I collected the data and conducted the analysis process, my interpretation of the data and selection would be guided by my understanding of the reality that is influenced by my teaching experience. I used to teach under similar circumstances that teachers are teaching under. I could not eliminate myself from the data and found myself holding expectations about school climate and teaching Mathematics similarly to the teachers in my study. Much of what the teachers wrote about I already acknowledge and experienced. Teachers in this study knew that I was a teacher. Therefore most of their answers were directed to me, using

the phrase “you know”. They wrote some answers and described certain situations knowing that I am used to them and experienced them before. I was not surprised by the results; rather I expected them. I was aware of all these feelings so I tried to give a detailed description of how I went with data collection and also how I interpreted teachers’ answers and analysed them. The purpose was to give the reader an idea of how I approached the data and from what perspective. The reader then can judge the validity and reliability of what I presented in this section.

The participants, there were two factors that influenced their answers: socio-demographic factors and the religious factor. Regarding socio-demographic factors, I analyzed the teachers’ answers by examining all the answers and tracing them back to the socio-demographic factors. I focused on four socio-demographic factors: teachers’ overall levels of satisfaction for a specific dimension, teaching grade level, school building type (rented or government), school location, and the bachelor degree type (whether holding a diploma of Education or not). This knowledge would give me a full picture about the teacher’s educational and working experience backgrounds and how this may influence the way he/she view a specific dimension. Each teacher was treated as a separate case that may produce different points of view on the issue of job satisfaction and students’ achievement in Mathematics. The teachers work in different schools and are from different regions in Jeddah; hence, each school has its own policy and circumstances that may affect teachers’ levels of job satisfaction differently. In some instances, this gave me a hint as to why teachers wrote such explanations and what socio-demographic factors has led to this. For example, it was expected to find teachers working in rented schools complaining about small classrooms and shortage in teaching aids (see Table 5.4).

Table 5.4

*A clarification of how I traced Teachers' Demographic Background*

Teacher's statement	Socio-demographic information	Teacher's choice
“There are no Mathematics labs to put my teaching aids. I bought almost all of my teaching aids: laptop and drawing tools. I carry all these equipments from one class to the other. Moreover, classes are crowded with 40 students and this means that I cannot implement group working activities and teaching strategies”.	Grade level of teaching	Grade nine
	Gender	Female
	Teacher's years of experience	1-5 years
	School building type	Rented building school
	School location	Eastern region
	Teachers qualification	Bachelor with diploma in education
	Math teaching as a working career	No
	Time of teaching that teachers spend in each class	Exact time
	Teacher's self-assessment	Above average
	Numbers of Mathematics courses that the teachers attended	1-5 courses
WA30: The overall level of satisfaction with your workplace atmosphere		Not satisfied at all

In terms of the religious factor, in Saudi Arabia religion is a significant component of our social fabric. Saudis tend to view the world through our religious beliefs (Farahani and Henderson, 2010). Teachers' answers included a religious dimension in them. It was reflected in their answers and mentioned throughout the survey. This could not be overlooked or ignored. It indicated how teachers are tightened to their religious beliefs. It also reflected their perspectives and thoughts of how they view the world around them. They used religion as a tool to construct reality around them. It was part of who they are and how they defined themselves in their teaching context. The quoted verses from the *Holy Quran and Prophet Mohammad (Peace be upon him) sayings* were all positive and encourage productivity and honesty in their work. These answers were not coded and counted in the qualitative analysis. However, I gathered and translated some of them so the reader can understand how teachers'

religious background has influenced the way they view reality.

*“Do deeds! Allah will see your deeds, and (so will) His Messenger and the believers. And you will be brought back to the All-Knower of the unseen and the seen. Then He will inform you of what you used to do.”*

قال تعالى: (وَقُلْ اَعْمَلُوا فَسَيَرَى اللّٰهُ عَمَلَكُمْ وَرَسُولُهُ وَالْمُؤْمِنُونَ وَسَتُرَدُّونَ اِلَىٰ عَالِمِ الْغَيْبِ وَالشَّهَادَةِ فَيُنَبِّئُكُمْ بِمَا كُنْتُمْ تَعْمَلُونَ) التوبه (105)

*“Allah loves someone who when works, he performs it in perfect manner (itqan)”*

قال الرسول صلى الله عليه وسلم: (إن الله يحب اذا عمل أحدكم عملا أن يتقنه)

*“Prophet Mohammad peace be upon him encourages us to work hard”*

"الرسول صلى الله عليه وسلم يأمرنا على العمل بجد"

*“Our religion encourages us to do our jobs in the best way”.*

"ديننا يحثنا على اتقان العمل"

#### 5.2.4 Data Preparation and Analysis

I want to point out to the data preparation procedure and how it was carried out. First, the data was originally in Arabic. I went through the whole Arabic version and prepared it for translation into English. The preparation process included correcting language mistakes in Arabic and making sure that the content is clear and makes sense to the translator. However, I preferred to translate the qualitative data (teachers' answers to all the open-ended questions in the survey) into English before starting with the data analysis. I asked a professional translator to translate the data into English then I asked another translator to translate the English version into Arabic again and I compared the two versions. This was to confirm that the meaning was not spoiled by the translation process.

Second, I looked through the answers and started cleaning the data. At this stage, I was looking for the answers that I would consider in the analysis process. The answers that were considered in the analysis were the answers that were clear and gave enough details and justification of why they feel satisfied or dissatisfied with each dimension. However, some teachers wrote answers that were incomplete. For example, they wrote very short answers that have no meaning or were not clear. They did this so they can move from one question to another. They failed to provide specific details about why they were satisfied or dissatisfied with a specific dimension. These answers did not exceed half a line. They provided answers such as:

"Khaled" "خالد" "Hi" "مرحبا"  
 "how is life in Australia?" "كيف الحياه في استراليا؟"

There are also another group of teachers who were overall “*satisfied*” with a dimension but answered the open-ended question in a way that did not reflect such a choice. I could only explain this action as the following: those teachers’ thought that they need to explain why they chose “*not satisfied*” with a specific item although they were overall satisfied or they thought that they wanted to add few points they believed were important to be considered by me and found it as a chance to write and express their feelings (see Table 5.5). A third group of teachers provided answers that included more than one issue (see Table 5.6 quotes 3 &4) yet these answers were coded twice under different theme.

Table 5.5

*A clarification of how Teachers’ contradiction answers*

Teacher's statement	Socio-demographic information	Teacher's choice
“The morning assemblies are exhausting. The weather is hot (40 degrees) but the Administration insists on holding the morning assembly in such weather. Some of these assemblies are long and useless. I wish they could be cancelled during the summer season”.	Grade level of teaching	Grade 8
	Gender	Male
	Teacher's years of experience	6-10 years
	School building type	Rented building school
	School location	Eastern region
	Teacher's qualification	Bachelor - diploma in education
	Math teaching as a working career	No
	Time of teaching that teachers spend in each class	Exact time
	Teacher's self-assessment	Above average
	Numbers of mathematics courses that the teachers attended	1-5 courses
	AS9: The overall level of satisfaction with your administrators	very satisfied

Finally, I started analyzing the data following a thematic analysis approach. In this data analysis approach, I analyzed and coded data looking for emerging themes (Graff, 2012). This was achieved by following six steps identified by Braun and Clarke (2006). The steps involved: familiarizing myself with the data, generate initial coding, looking for themes, reviewing themes, naming themes, and writing the report.

I went through all teachers' answers to questions: AS20, WA31, TE43, and SB53 and read them to get used to the data. I wanted to familiarize myself with the data and understand its meaning. The second step was reading the data and then writing side notes on the major issues that I found teachers repeating in their answers. This stage was accomplished by looking at teachers answers to the four open-ended questions at the end of a list of closed –

ended questions. I examined the answers to look for keywords and teaching issues that the teachers provoked in their answers. These keywords were teachers' explanation to why they were either satisfied or dissatisfied with a certain dimension. I was looking for patterns and reasons why they chose a specific answer for the items: AS19, WA30, TE42, and SB52. I focused on the major issues that the teachers wrote about and were frequently mentioned and used as heading for coding. At this stage, I was writing initial codes. However, I found that some teachers wrote about more than one issue in one answer (see Table 5.6 quotes 3 &4). Their answers were coded twice under different themes depending on their content. Then, I developed sub-codes derived from the primary initial codes. Next, I developed themes that sub-codes could go under and that enable me to write the report down (see Table 5.6).

Table 5.6

Significant Statement Examples	Theme
“The administration staff are cooperative but we are still required to prepare and participate in school activities. This cost us money as I pay from my own pocket. It also requires extra efforts. The Ministry of Education does not support us with enough money for these activities”.	school activities
“We have a room at my school which is a learning resource room but we do not use it in an effective way as the room is small and barely takes twenty students, so we use it for teachers and parents meetings.”	Small classes
The classrooms are small, the school building lacks the resources and cleaning	Small classrooms - lacking resources - lacking cleaning

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“The school canteen provides unhealthy food for students and Hygiene issues teachers complained but the company that supplies the canteen with goods has signed with the Ministry a long term contract.”

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“There is nothing controlling students’ behaviour and they are Code of conduct - grading passing exams easily” system

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### *Coding Process*

## **5.3 Conclusion**

In this chapter I illustrated how I analysed the data. The analyses generated were of two parts: quantitative and qualitative. I explained in detail how I analysed each part and what instruments and methods were employed to analyse the data. In the next chapter I will present the results of each question in this research study.

## **Chapter Six: Results and Discussion**

### **Overview**

This chapter presents results of both quantitative and qualitative data. This chapter is divided into three major sections. The first is the presentation of both quantitative and qualitative data to answer the first and second questions of this thesis. The second section is quantitative results to answer the third research question. Finally, qualitative data in form of emerging themes are presented to answer the fourth research question of this thesis.

### **6.1 Introduction**

In this chapter, I present the results and discussion of the research data. This chapter is divided into three major sections: the first section which is teachers' levels of satisfaction in the four identified dimensions. This is to answer the first and second research questions. This includes the following sub-sections: socio-demographic information. An overview of the demographic information of teachers is first presented. There were ten demographic items: gender, level of education the teachers teaches, teaching experience, school building type (government or 'rented'), school location, teacher's highest degree achieved, choosing to be a Mathematics teacher, view of own effectiveness, time spent on teaching Mathematics, and Mathematics courses attended. These items were used to create the educational and demographic profile of teachers. Then, I present the quantitative (descriptive statistical analysis) and the qualitative (thematic analysis) results of the four job satisfaction dimensions: administrative support (AS), workplace atmosphere (WA), teaching efficacy (TE), and students' behaviour (SB). Each dimension is then discussed in regards to relative literature. In each dimensions I started with the quantitative results followed by the qualitative results. Quantitative results were tables included the percentage of teachers'

answers frequencies.

Qualitative results were in form of emerging themes. Details of each dimension themes were as following: first in administrative support (AS) there were five emergent themes: school activities, allocation of Mathematics lessons in the classroom table, management issues, interfering in teachers' work, the school principal is strict, and appreciation and support. After that, workplace atmosphere (WA), five themes emerged from teachers' answers: insufficient resourced environment, safety and hygiene issues, relationship with colleagues, exhausting evening classes, advanced school buildings. Next, teaching efficacy (TE), three themes emerged from teachers' answers on this dimension: holding Educational qualifications, teaching experience, and teachers demand opportunities for advancements. The last dimension was students' behaviour (SB), three themes emerged from teachers' answers: students are at a critical age, effective implementation of code of conduct is required, and the grading system is unfair. Finally, I discussed the results in relation to the literature reviewed in this thesis.

Then the second section is the quantitative inferential statistical analysis. This is to answer the third research question. This includes eleven sub-sections illustrating how socio-demographic factors may influence teachers; level of job satisfaction in the four identified dominions. The sub-sections are: gender, level of education the teachers teaches, teaching experience, school building type (government or 'rented'), school location, teacher's highest degree achieved, choosing to be a Mathematics teacher, view of own effectiveness, time spent on teaching Mathematics, and Mathematics courses attended. The final sub –section is a discussion of results.

The third and final section is qualitative thematic results of the final research question. There are four main sub-sections: salary and rights, women maternity leave and rights, lack of teaching resources, and discussion of the results.

## **6.2 Socio-Demographic Profile of Teachers**

Table 6.1 illustrates the distribution of teachers according to their demographic backgrounds. As can be seen in Table 6.1, there were 230 Middle school teachers teaching grades 7, 8, and 9, in Jeddah participated in the study. All teachers taught in public schools around Jeddah. There were more male teachers ( $N=126$ , 54.8%) than female teachers ( $N=104$ , 45.2%) among those who participated in the study. This may be due to the fact that when the data was collected, it was seasonal holidays and female teachers would be busy with their families.

There were 67 (29.1%) teachers teaching year 7, 64 (27.8%) teachers teaching year 8, and 99 (43.0%) teachers teaching year 9. Regarding teaching experience, there were 28 (12.2%) teachers with one to five years of experience, 59 (25.7%) teachers with six to ten years of experience, 34(14.8%) teachers with eleven to fifteen years of teaching experience, and 109 (47.4%) teachers with more than fifteen years of teaching experience. This group of teachers was the largest among all groups. Moreover, there were 100 (43.5%) teachers who worked in rented buildings and 130 (56.5%) in government-owned buildings.

Teachers from different regions in Jeddah participated in this study. From the Eastern region, there were 46 (27.8%), from the Western region, there were 8 (3.5%), from the Northern region, there were 51 (22.2%), from Southern region, there were 65 (28.3%), and from the central region, there were 42 (18.3%). There were a few numbers of teachers

from the Western region. This is because the Western region is a tourist area with fewer numbers of Middle schools compared to other regions. Most schools there are international and private schools and public schools are limited.

Regarding the highest degree achieved by teachers who participated in the study, there were 191 (83.0%) teachers who had bachelor degrees with a Diploma in Education, while 35 (15.2%) teachers had bachelor degrees without a Diploma in Education (see Chapter Two). Only 4 (1.7%) teachers had a master's degree and none had a PhD degree.

In terms of choosing to be a Mathematics teacher, teachers choosing to be Mathematics teachers because they wanted this field, the study reported that 104 (45.4%) teachers chose "*definitely no*", while 43 (18.7%) chose "*not sure*" and 83 (36.2%) teachers chose "*definitely yes*".

Regarding time spent teaching, there were 7 (3%) teachers who said that they spent "*a lot less*" than the standard time that should be spent teaching Mathematics inside the classroom; which is 45 minutes. Each period should be 45 minutes as this is the policy of the Ministry of Education in Saudi Arabia. There were 31 (13.5%) teachers spent "*a bit less*" and 93 (40.4%) spent the "*exact time*". Finally, there were 74 (32.2%) who spent "*a bit more*" and 25 (10.9%) "*a lot more*".

Teachers also evaluated their teaching effectiveness based on their own perception. Hence, there were 86 (37.4%) teachers who rated their effectiveness as "*superior*" and 105 (45.7%) "*above average*". Likewise, there were 38 (16.5%) who rated themselves as "*average*", one teacher chose "*low*" and no one chose "*below average*".

In response to the number of Mathematics teacher-training courses or any other courses that support the teachers in their teaching, 105 (45.7%) teachers attended from one to five courses and 66 (28.7%) teachers attended from six to ten courses. There were also 59 (25.7%) teachers who attended eleven courses and above and no one reported not attending any courses.

Table 6.1

*Socio-demographic Information*

Variable	Subclass	Frequency (%)
1- Level of education taught	Year seven	67 (29.1)
	Year eight	64 (27.8)
	Year nine	99 (43.0)
2- Gender	Male	126 (54.8)
	Female	104 (45.2)
3- Teacher's years of experience	1 - 5 years	28 (12.2)
	6 – 10 years	59 (25.7)
	11 – 15 years	34 (14.8)
	More than 15 years	109 (47.4)
4- School building type	Rented building	100 (43.5)
	Government building	130 (56.5)
5- School location	East	64 (27.8)
	West	8 (3.5)
	North	51 (22.2)
	South	65 (28.3)
	Central	42 (18.3)
6- Highest degree achieved	Bachelor + diploma in education	191 (83.0)
	Bachelor - diploma in education	35 (15.2)
	Master	4 (1.7)
	PhD	0
7- Choosing to be Math teacher	Definitely No	104 (45.4)
	Not sure	43 (18.7)
	Definitely Yes	83 (36.2)
8- Time spent in teaching	A lot less amount	7 (3)
	A bit less	31 (13.5)
	Exact time 45 mins	93 (40.4)
	A bit more	74 (32.2)
	A lot more	25 (10.9)
9- View of own effectiveness	Superior	86 (37.4)
	Above average	105 (45.7)
	Average	38 (16.5)
	Below average	0
	Low	1 (0.4)
10- Courses attended	1 – 5 courses	105 (45.7)
	6 – 10 courses	66 (28.7)
	11 courses or a above	59 (25.7)
	Never attended	0

### 6.3 Teachers Levels of Satisfaction in the Four Dimensions of Job Satisfaction

In this section, I present the descriptive data to answer the first question of this research study: 1- To what extent are teachers in Middle schools in Jeddah, Saudi Arabia satisfied with their jobs in relation to the following dimensions that were identified previously by the literature as significant: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?. This was achieved by using mean and standard deviation to show the differences between the levels of satisfaction among the four dimensions: administrative support (AS), workplace atmosphere (WA), teaching efficacy (TE), and students' behaviour (SB).

Table 6.2

#### *Descriptive Statistics for the Satisfaction Dimensions*

Dimensions of job satisfaction	N	Mean (SD)
Administrative support	230	3.72 (0.95)
Workplace atmosphere	230	3.21 (0.77)
Teaching Efficacy	225	3.92 (0.62)
Student's behaviour	214	3.77 (0.81)

Results regarding teachers' levels of satisfaction in regard to the four dimensions of job satisfaction are revealed in Table 6.2. This is achieved by comparing the overall score for each dimension. It can be seen in Table 6.2 that in general, teachers were satisfied with regard to all the four dimensions of job satisfaction, since all the mean scores were above three. Table 6.2 shows that teaching efficacy had the highest level of satisfaction among Mathematics teachers as compared to the other dimensions ( $M= 3.92$ ;  $SD = 0.62$ ), followed by students' Behaviour ( $M= 3.77$ ;  $SD = 0.81$ ), then administrative support ( $M= 3.72$ ;  $SD = 0.95$ ), while the lowest level of satisfaction among Mathematics teachers was

reported by workplace atmosphere ( $M= 3.21$ ;  $SD = 0.77$ ).

In the following sub-sections, quantitative and qualitative results are presented for each dimension. The results of the quantitative analysis are to answer the first question of this research study: 1- To what extent are teachers in Middle schools in Jeddah, Saudi Arabia satisfied with their jobs in relation to the following dimensions that were identified previously by the literature as significant: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?. The results of the qualitative analysis are to answer the second research question: .2-What explanations do teachers give in Middle schools in Jeddah, Saudi Arabia who were either satisfied or not satisfied in relation to the following four dimensions: administrative support; workplace atmosphere; teaching efficacy; and students' behaviour?

### **6.3.1 The Quantitative Results for Administrative Support (AS)**

This sub-section describes and presents the quantitative data for administrative support. In the following sub- section, I used the descriptive analysis method to examine the pattern of responses by the teachers to the eight items on administrative support. It describes teachers' levels of satisfaction in regards to administrative support in their schools.

Table 6.3 below shows teachers' levels of satisfaction in regard to administrative support (AS). There are nine items in the table that teachers needed to specify their levels of satisfaction based on them. These items are about: respect and recognition given to teachers (AS11 and AS12), degree of communication (AS13), support (AS14), decision-making in terms of authority given to teachers (AS15), relationship with principal and assistant principal

(AS16), communication policies (AS17), and amount of time the administration spent with the teachers in the classroom (AS18). Finally, teachers needed to elaborate on their overall level of satisfaction in regards to administrative support (AS19).

Table 6.3

*Teachers' levels of Satisfactions with Administrative Support (AS)*

N	Items	Not satisfied at all	Not satisfied	Neutral	Satisfied	Very satisfied
AS11	The level of respect given to you from your administrators.	5 (2.2%)	20 (8.7%)	27 (11.7%)	69 (30%)	<b>109 (47%)<sup>2</sup></b>
AS12	The amount of recognition you received for your efforts from your administrators in school.	7 (3%)	37 (16.1%)	33 (14.3%)	<b>79 (34.3%)</b>	74 (32.2%)
AS13	The degree of communication from your administrators	10 (4.3%)	22 (9.6%)	40 (17.4%)	69 (30%)	89 (38.7%)
AS14	The support you received from administrators in the school.	24 (10.4%)	<b>42 (18.3%)</b>	44 (19.1%)	54 (23.5%)	66 (28.7%)
AS15	The degree of decision-making in terms of the authority you were allowed in your job as a teacher.	16 (7%)	39 (17%)	50 (21.7%)	75 (32.6%)	50 (21.7%)
AS16	The relationship you have with your principal and assistant principal	2 (0.9%)	10 (4.3%)	20 (8.7%)	74 (32.2%)	<b>124 (53.9%)</b>
AS17	The administration in your school communicates its policies well.	15 (6.5%)	31 (13.5%)	47 (20.4%)	<b>88 (38.3%)</b>	49 (21.3%)
AS18	The amount of time administrators spent in your classroom observing or participating in instructional activities.	21 (9.1%)	33 (14.3%)	67 (29.1%)	72 (31.3%)	37 (16.1%)
AS19	The overall level of satisfaction with your administrators	<b>16 (7%)</b>	<b>29 (12.6%)</b>	32 (13.9%)	<b>82 (35.7%)</b>	<b>71 (30.9%)</b>
AS20-	Could you please provide more explanation to your choice in item AS19					

The number of teachers who answered the questions relating to the first dimension was 230. In general, teachers were satisfied with the administrative support. Their overall level (item AS19) with the administrative support was “*satisfied*” and “*very satisfied*” (82 +71 = 153 or 66.6%) compared to “*not satisfied*” and “*not satisfied at all*” (29+16= 45 or 19.6%).

In reporting the results, I started by highlighting and reporting the significant result

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<sup>2</sup> the highlighted cell represents the response with the significant percentage for each item

in each table. It can be seen in Table 6.3 that the majority of teachers were “*very satisfied*” and “*satisfied*” with administrative support. In Table 6.3, teachers reported high levels of satisfaction to AS 11 and AS 16. They were distributed as following 109 (47%) teachers were “*very satisfied*” with the respect given to them by the administrative staff (item AS11) and teachers’ relationship with the principal and assistant was high also as there were 124 (53.9%) teachers reported to be “*very satisfied*” with (item AS16).

The levels of satisfaction drops slightly into “*satisfied*” when it comes to amount of recognition teachers receive and communicating school policy. There were 88 (38.3%) teachers reported being “*satisfied*” with the way the administration communicated their policies (item AS17). There were also 79 (34.3%) teachers who reported being “*satisfied*” with the amount of recognition they receive from the administrative staff (item AS12). The lowest level of dissatisfaction was with the support they receive from the administrative from the school (item AS14). They reported “*not satisfied*” 42 (18.3%).

The levels of satisfaction in regard to administrative support varied between “*very satisfied*” to “*satisfied*”. According to the overall levels AS 19, teachers were satisfied with administrative support. The overall result in AS19 was 71 (30.9%) teachers were “*very satisfied*”.

### 6.3.2 The Qualitative Results for Administrative Support (AS)

This sub-section presents the qualitative data results for the first dimension administrative support (AS). In this sub-section, teachers' explanations to their responses on the overall satisfaction relating to administrative support (AS) are analyzed and presented. AS19 asked teachers to rate their overall satisfaction to AS, and AS20 asked them to explain their response to AS19.

First I present a table in which I describe the number of teachers and their distribution in relation to their choice of their overall level of job satisfaction for administrative support. Regarding the open-ended question (item AS20) that follows the quantitative questions, (see Table 6.3). From a total of 230 teachers who participated in this dimension, there were 100 (43.48%) teachers who answered the qualitative question.

Teachers who reported different levels of satisfaction to AS19 about their overall satisfaction with administrative support gave their explanation in the open-ended question (item AS20). There were answers that did not reflect the teacher's choices in AS19, for example, a teacher who is overall "*satisfied*" with administrative support gave a qualitative answer to AS20 that includes issues of dissatisfaction. However, still these answers were included in the analysis and coded. There were 20 teachers who provided short answers that were too general and failed to give satisfactory answers that could be considered by me and make sense to the reader. These answers were irrelevant and did not make sense as I explained before (see Chapter Five). Therefore, only 80 (80%) teachers out of 100 provided relevant answers that could be coded and analyzed. However, I found that some teachers wrote about more than one issue in one answer (see Table 5.6 Chapter Five) still these answers were coded twice as I mentioned in Chapter Five. The distribution of teachers

who provided relevant answers, according to their levels of satisfaction to administrative support, can be seen in Table 6.4.

Table 6.4

*Frequency Distribution of Teachers who gave Relevant Explanations about their Overall Satisfaction of administrative support*

Dimension	Administrative Support (AS)					
Theme 1	School Activities					
Responses to AS19	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	8 (22.9%)	10(28.6%)	2 (5.7%)	13 (37%)	2 (5.7%)	35(100%)
Theme 2	Allocating Mathematics Lessons in the Classroom Table					
Responses to AS19	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	4 (14.8%)	11 (40.8%)	1(3.7%)	10 (37%)	1 (3.7%)	27(100%)
Theme 3	Management Issues					
Responses to AS19	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	3(21.4%)	6(42.9%)	0(0%)	3(21.4%)	2(14.3%)	14(100%)
Theme 4	Interfering in Teachers' work					
Responses to AS19	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	4(40%)	1(10%)	1(10%)	4(40%)	0(0%)	10(100%)
Theme 5	The headmistress is Strict					
Responses to AS19	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	1(33.3%)	2(66.7%)	0(0%)	0(0%)	0(0%)	3(100%)
Theme 6	Appreciation and Support					
Responses to AS19	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	0(0%)	0(0%)	1(9.1%)	4(36.4%)	6(54.5%)	11(100%)

Data were analysed and coded into themes according to teachers' answers. Each theme included teachers' answers. There were several issues that teachers pointed out in their answers. I looked for the most repeated concept in teachers' answers. The more the same concept was repeated the likely it is considered to be a theme (Ryan & Bernard, 2003). These issues were the following: school activities, Mathematics subject allocation in the classroom timetable, management issues, interfering in teachers' work, and appreciation and support. The themes were arranged accordance to order and frequency. Therefore, the one with the highest number of teachers' responses is first, the next highest is second etc. These strategies of coding and arranging themes were followed with the rest dimensions. In the next sections I explain each theme in detail.

### 6.3.2.1 School Activities

The first reason was the administration focus on school activities such as celebrating the national day and other irrelative activities that 35 (43.8%) out of 80 teachers from both genders believed it has nothing to do with teaching Mathematics. These activities require a considerable effort ranging from organizing posters and morning assemblies to preparing open days for families and students.

As can be seen in Table 6.4, teachers who mentioned about school activities were distributed between those who were dissatisfied (*not satisfied at all*=22.9%, *not satisfied*=28.6%) and satisfied (*satisfied*=37.0%, *very satisfied*=5.7%) with the overall administrative support (item AS19).

A “*not satisfied at all*” female teacher teaching grade eight in a rented school building from the Southern region and holding a bachelor degree with a Diploma in Education stated that:

*“The administration focuses on the school activities only. They need these activities to be done and recorded in the school documents to prove that they are up-to-date with all events. These activities are exhausting and need a lot of effort besides teaching Mathematics. The school administration does not care if students like these activities and achieve benefits from them”.*

“الإدارة تركز على الأنشطة المدرسية فقط و تحرص على توثيقها لتثبت أنها دائما تتفاعل مع المستجدات . هذه الأنشطة متعبه و تحتاج لجهد إضافي بجانب تدريس مادة الرياضيات. أيضا هي لا تهتم بمعرفة ما إذا كانت الأنشطة محببه للطلاب هل تحقق لهم الفوائد التعليمية أم لا .”

Another “*not satisfied*” male teacher, teaching grade seven in a rented school building from the Southern Region and who holds a bachelor degree with a Diploma in Education said:

“The administration staff does not realize how difficult it is to teach Mathematics; instead they add more pressure and ask us to work and spend time on school activities that are not included in the

curriculum”

“إدارة المدرسة لا تدرك صعوبة تدريس الرياضيات بل تزيد الضغط علينا و تطالبنا بعمل أنشطة مدرسية لا يتضمنها المنهج”

A “satisfied” female teacher teaching grade nine in a government school building from the Eastern region and who holds a bachelor degree with a Diploma in Education mentioned that:

*“The administration staff are cooperative but we are still required to prepare and participate in school activities. This cost us money as I pay from my own pocket and requires extra effort. The Ministry of Education does not support us with enough money for these activities”*

" إدارة المدرسة متعاونه ولكن لا زلنا مطالبين بالتجهيز والمشاركة في الأنشطة المدرسية. هذه الأنشطة تكلفنا ماليا حيث أنني أدفع من جيبي الخاص بالإضافة أنها تتطلب الكثير من الجهد. وزارة التعليم لا تدعمنا بأموال كافية لتنفيذ هذه الأنشطة"

A “very satisfied” male teacher teaching grade eight in a rented school building from the Eastern region and who holds a bachelor degree without a Diploma in Education stated that:

*“The morning assemblies are exhausting. The weather is hot as the temperature hits 40 degrees but the administration insists on holding morning assemblies in this type of weather. Some of these assemblies are long and useless. I wish they could be cancelled during summer season”*

"حصة النشاط الصباحية متعبة جدا، ودرجة الحرارة تصل الى اربعين درجة مئوية و مع ذلك الإدارة مصرة على تفعيلها في مثل هذه الأجواء. بعض هذه الأنشطة طويلة و غير مفيدة و أتمنى أن تلغى خلال فصل الصيف"

A “not satisfied” male teacher and teaching grade eight in a government school building from the Southern region and holding a bachelor degree with a Diploma in Education said that:

*“School activities are useless”*

"الأنشطة المدرسية عديمة الفائدة"

A “*not satisfied*” female teacher teaching grade seven in a rented school building from the Central region and holding a bachelor degree with a Diploma in Education stated that:

*“Activities should be cancelled in rented schools”*

"من المفترض أن تلغى الأنشطة من المدارس المستأجرة"

Teachers reported that school activities are considered by them (regardless of whether they were overall satisfied with the administrative support or not) to be "useless", costing time and money, and not part of Mathematics teaching. It is clear that teachers struggle to complete these activities and plan them while teaching Mathematics. There were a considerable number of teachers who were “*very satisfied*” and “*satisfied*” with the overall (item AS19) but they still considered school activities as irrelevant, exhausting, and unnecessary.

#### **6.3.2.2 Allocating Mathematics Lessons in the Classroom Timetable**

The fact that Mathematics classes should be in the first three periods from 7:30am to 9:45am was an issue that teachers identified as problematic. This policy was set by the Ministry of Education in Saudi Arabia (General Directorate of Education in Jeddah, 2011). However, 27 (33.75%) (see Table 6.4) teachers pointed out that the administration staff broke this rule and asked them to teach Mathematics during the last three periods.

As can be seen in Table 6.4, teachers who mentioned about allocating Mathematics lessons in the classroom timetable were roughly distributed between those who were dissatisfied (*not satisfied at all*=14.8%, *not satisfied*=40.8%) and satisfied (*satisfied*=37%, *very satisfied*=3.7%) with the overall administrative support (item AS19).

A “not satisfied” female teacher teaching grade nine in a rented school building from the Eastern region and who holds a bachelor degree with a Diploma in Education commented:

*“They do not apply the rules. They insist that we should teach after 11 am which is not appropriate. Mathematics is a difficult subject and needs extra effort and focus from the part of the students and this is almost impossible during late hours”*

“لا يطبقون الأنظمة و يجبروننا على تدريس الرياضيات بعد الساعة الحادية عشر ظهرا و هذا غير مناسب. الرياضيات مادة صعبة و تحتاج مجهود و تركيز عالي من الطالبات و هذا لا يحدث في آخر الدوام المدرسي”

A “not satisfied at all” male teacher teaching grade nine in a rented school building from the Southern region and who holds a bachelor degree with a Diploma in Education also mentioned this issue:

*“We know that it is a rule that Mathematics should be taught in the first three periods but the school administration does not implement the rules. I complained to the Regional Office but it was useless; no one listened”.*

“نعلم ان النظام ينص ان تدرس الرياضيات خلال الحصص الثلاث الأولى ولكن ادارة المدرسة لا تطبق النظام. قدمت شكوى لمكتب الإشراف ولكن بدون فائدة و ليس هناك من يسمع”.

In support of the previous answer, another “not satisfied” male teacher teaching grade eight in a government building from the Southern region and who holds a bachelor degree without a Diploma in Education stated that:

*“The headmaster wanted to allocate Mathematics classes in the last four periods as he claimed that Math teachers always leave early once they finish their classes. Other subject teachers also objected to such a rule (teaching Math in the first three periods) as they are going to teach during the late hours which put pressure on them and on their students. They believe that their subjects are important too”.*

“مدير المدرسة يضع مادة الرياضيات في الأربع حصص الأخيرة بحجة أن معلمي المادة يغادرون المدرسة مبكرا بمجرد الإنتهاء من الحصص. معلمي المواد الأخرى أيضا يرفضون هذا القرار لأنه سيجعلهم يقومون بالتدريس في الحصص المتأخرة و هذا يمثل ضغطا عليهم و على طلبتهم لأنهم يعتقدون أن موادهم مهمة أيضا”.

A “not satisfied” male teacher teaching grade nine in a rented school building from the Eastern region and who holds a bachelor degree with a Diploma in Education mentioned that:

*“The school administration is prejudice in the way they deal with us. This is because of ministerial decisions that stipulate that Mathematics should not be taught in the seventh period. They also underestimate our effort in teaching Mathematics and compare us to other teachers. The headmaster is trying to convince other subject teachers to object to the decision that Mathematics teachers have been granted”.*

“تعامل ادارة المدرسة فيه تحامل علينا وذلك بسبب القرار الوزاري الذي ينص على تجنب تدريس الرياضيات في الحصة السابعة. كما أنهم يقللون من جهود معلم الرياضيات و يقارنوننا بالمعلمين الآخرين. مدير المدرسة يحاول دائما اقناع معلمي التخصصات الاخرى بالاعتراض على الميزة الممنوحة لمعلمي الرياضيات”.

A “satisfied” female teacher teaching grade seven in a rented school building from the Central region and holding a bachelor degree with a Diploma in Education mentioned that:

*“Mathematics lessons should be at the beginning of the school day”.*

“حصة الرياضيات من المفترض ان تكون في بداية اليوم الدراسي”.

Teachers reported that the allocating Mathematics lessons in the classroom timetable as a dissatisfactory factor that influence how they perceive administrative support in their schools. They complain about the principals not communicating and implementing school policies in regard to having Mathematics lesson at the first three periods in the school table. Teachers believed that the administration staff has failed in communicating school policies as they should be.

### 6.3.2.3 Management Issues

As can be seen in Table 6.4, there were 14 (17.5. %) teachers out of 80 who mentioned about the administration is not managing teachers' and students' relationship in a satisfying way. They were distributed between those who were dissatisfied (*not satisfied at all*=21.4%, *not satisfied*=42.9%) and satisfied (*satisfied*=21.4%, *very satisfied*=14.3%) with the overall administrative support (item AS19). The teachers believed that the administration should state rules for student-teacher relationship. However, what is happening is that students' rights are a priority and teachers' rights come second. They also complained about the supervisors and administrative staff blaming them for the students' low performance in Mathematics. Finally, they believed that the administrative staff is not effective enough to control and manage the school.

A “*not satisfied at all*” female teacher teaching grade seven in a government school building from the Central region and who holds a bachelor degree without a Diploma in Education, stated that:

*“The girls in the classroom do not listen to me when I speak to them. They misbehave in the classroom and this is annoying. The vice headmistress does not cooperate with us”.*

"الطالبات لا يستمعون لي داخل الفصل عندما أتحدث اليهم، كما أنهم غير منضبطات في الفصل و هذا الأمر يزعجني. قدمت شكوى لوكيلة الطالبات ولكنها غير متعاونة".

A “*satisfied*” female teacher teaching grade seven in a rented school building from the Central region and who holds a bachelor degree with a Diploma in Education mentioned:

*“I hope there are rules that can regulate students and teachers relationships. When students misbehave or achieve low levels in Mathematics, my supervisor blames me”.*

“أتمنى أن يكون هناك نظام يحدد العلاقة بين الطالب والمعلم. دائما ما نتعرض للوم من المشرف التربوي عندما يحقق الطلبة درجات منخفضة في الرياضيات أو يكون سلوكهم غير جيد”.

A “not satisfied” male teacher teaching grade seven in a government school building from the Northern region and who has a bachelor degree with a Diploma in Education, claimed that:

*“Students are aware that the administration staff force teachers to add marks and grades to students to pass the subjects. They do not care if the students are learning and achieving progress, they only care about the school’s positive reputation”.*

“يدرك الطلبة جيدا أن المعلم مجبر من إدارة المدرسة على إضافة الدرجات لهم لكي يتحصلوا على النجاح في المادة. إنهم لا يهتمون بتعليم الطلبة أكثر من تحسين سمعة المدرسة”.

Another “not satisfied” male teacher teaching grade nine in a government school building from the Central region and who has a bachelor degree without a Diploma in Education mentioned that:

*“When students’ achievement decline, the school administration blames teachers and do not consider the student’s role. Mathematics teachers should be responsible for teaching only and be given time to plan and teach like in the advanced countries”.*

“عندما ينخفض تحصيل الطلبة في الرياضيات يضع مدير المدرسة اللوم على المعلمين دون وضع اي اعتبار لدور الطلبة. معلم الرياضيات يجب أن يكون مسؤولا عن التدريس فقط و أن يعطى الوقت للتخطيط و التدريس كما هو في الدول المتقدمة”.

Another “not satisfied” male teacher teaching grade 7 in a government school building from the Eastern region and who has a bachelor degree without a Diploma in Education mentioned that:

*“There is no effective leadership in schools”.*

“لا يوجد قيادات فعالة في المدارس”.

Teachers complained from the absence of rules that may regulate their relationship with their students. They also complained from the administrative staff and the way they deal with issues that may emerge between them and their students. They believed that there was no effective leadership in the school. Teachers were dissatisfied with the way the administrative staff manage teachers and students relationship.

#### **6.3.2.4 Interfering in Teachers' Work**

Teachers pointed out that the administration staff often interferes in their work and teaching practices. There were 13(16.3%) teachers (see Table 6.4). They also complained about the administrative staff often over-attend teachers' classes. They believe this action adds pressure on them. They stated that the headmistress/headmaster surprises them with their visits in the classrooms.

As can be seen in Table 6.4, teachers who mentioned about the administrative staff often interfere in their work were distributed between those who were dissatisfied (*not satisfied at all*=40%, *not satisfied*=10%) and satisfied (*satisfied*=40%, *very satisfied*=0%) with the overall administrative support (item AS19).

A “*not satisfied at all*” female teacher teaching grade nine in a government school building from the Eastern region and who has a bachelor degree with a Diploma in Education mentioned:

*“The headmistress comes to my classroom to attend a lesson. I am not prepared; she did not inform me. Then she expects me to do well. You know that her evaluation may affect my final year report. It is only a pressure”.*

" عندما تزورني مديرة المدرسة داخل الفصل أكون أحيانا غير جاهزة و هي لا تبلغني مسبقا برغبتها في الحضور و تتوقع مني أن أشرح جيدا. أنت تعلم أن تقييمها لي قد يؤثر على تقريرتي النهائي مما يسبب لي ضغطا نفسيا".

A “not satisfied” male teacher teaching grade seven in a government building school from the Central region and who holds a bachelor degree with a Diploma in Education said:

*“I am a new teacher at the school and the headmaster likes to visit me a lot. This action makes me anxious and I feel that he is watching me”.*

" أنا معلم جديد في المدرسة و المدير يزورني في الفصل كثيرا و هذا ما يجعلني متوترا و أشعر و كأنه يراقبني " .

A “not satisfied” female teacher teaching grade eight in a government school building from the Northern region and who holds a bachelor degree with a Diploma in Education stated that:

*“The headmistress always interferes in the way I teach. I hate the classes she attends. She sits with me after the lesson and starts criticizing my teaching methods and suggests new methods although she is not a Mathematics teacher and never been one. I cannot argue with her as she holds all the evaluation marks”.*

" مديرة المدرسة تتدخل في طريقة شرحي للدرس و تجعلني أكره الحصة الدراسية التي تحضرها . بعد انتهاء الدرس تجلس معي و تبدأ في انتقاد طريقة شرحي و تقترح علي طريقة أخرى لا تناسبني و فوق كل ذلك هي لا تملك أي خبرة في تدريس الرياضيات و لكنني لا أستطيع مناقشتها لأنها هي من تملك درجات التقييم " .

Another “satisfied” female teacher teaching grade seven in a government school from the Eastern region and who holds a bachelor degree with a Diploma in Education said that:

*“The headmistress attends my lessons without permission”.*

" المديره تحضر لي الدروس بدون استئذان " .

### 6.3.2.5 The Headmistress is Strict

Finally, there were 3(3.75%) female teachers who complained from the headmistress (see Table 6.4). They mentioned that their headmistresses are strict and believe that any change in the school should be done after they asked permission from the Regional Office. They find it difficult to convince their administrative staff of any change. A “*not satisfied at all*” female teacher teaching grade eight in a government school building from the Southern region and holding a bachelor degree with a Diploma in Education complained:

*“Our headmistress is so strict and likes to follow the rules in a way that prevents her from accepting any change. Even if we decided to have a lunch party in an open day, she needs to seek permission from the Regional Office”.*

"مديرة المدرسة نظامية فوق الحد المطلوب و تبالغ في اتباع الإنظمة . انها لا تسمح لنا حتى بعمل حفلة غداء في اليوم المفتوح الى أن نتحصل على إذن من مكتب الإشراف".

A “*not satisfied*” female teacher teaching grade nine in a rented school building from the Southern region and holding a bachelor degree with a Diploma in Education stated that:

*“The headmistress is stubborn and bossy”.*

"مديرة المدرسة عنيدة و متسلطة".

A “*not satisfied*” female teacher teaching grade seven in a rented school building from the Northern region and holding a bachelor degree with a Diploma in Education said that:

*“The school headmistress does not trust us”.*

"مدير المدرسة لا يثق بنا".

Teachers found that principals over attend their lessons and interfere in their teaching practices. They perceived their principals to be strict, stubborn and bossy.

#### 6.3.2.6 Appreciation and Support

From Table 6.4 it can be seen that out of 80 teachers there were 11 (13.8%) teachers who pointed out appreciation and support as a reason that contributed to their feeling of satisfaction towards the administrative support. A majority of the teachers who mentioned appreciation and support by the administrative staff were very satisfied (6 out of 11 or 54.5%) with the overall administrative support (item AS19).

Those teachers wrote and explained why they were satisfied with the administrative support. They stated that the staff appreciate their efforts in teaching Mathematics and help creating all the tools that would assist their teaching. A “*satisfied*” male teacher teaching grade nine in a rented school building in the Eastern region and who holds a bachelor degree without a Diploma in Education mentioned:

*“Although the school building is old and poor, the administration staff try their best to provide the suitable working atmosphere and teaching aids that support the teaching process”.*

“على الرغم ان مبنى المدرسة قديم ولكن إدارة المدرسه تعمل بكل طاقتها لتوفير الجو المناسب للعمل وكذلك توفير وسائل تعليمية تساعد على تدريس الطلبة ”.

A “*satisfied*” female teacher teaching grade seven who teaches in a government school building from the Southern region and who holds a bachelor degree with a Diploma in Education complained

*“I did not get enough respect and appreciation from the previous headmistress, however, the current one appreciates all the effort I put*

*with students”.*

”لم أحصل على التقدير والإحترام من المديره السابقة بعكس المديره الحالية تقدر كل المجهودات التي أقدمها للطالبات”

A “*satisfied*” female teacher teaching grade seven in a rented school building from the Southern region and holding a bachelor degree with a Diploma in Education stated:

*“The administration staff were supportive during my pregnancy time. The headmistress gave me one grade to teach only as she knew that I was ill and cannot teach more than one grade”.*

”الإدارة كانت داعمه لي خلال فترة الحمل. المديره كلفتني بتدريس مرحلة واحدة لأنها تعرف أنني مريضة ولا أستطيع تدريس أكثر من مرحلة واحدة”.

A female teacher who is “*very satisfied*” teaching grade nine in a government school building from the Northern region and who holds a bachelor degree with a Diploma in Education mentioned:

*“The administrative staff are known for their understanding and acceptance of our ideas and opinions. They are flexible and appreciate teachers’ effort and encourage us to do our best”.*

”إدارة المدرسه متفهمه و تتقبل الرأي. هناك مرونة و تقدير لمجهود المعلمات و تشجعنا على أن نؤدي عملنا بأفضل طريقة”.

A male teacher who is “*very satisfied*” teaching grade eight in a government building school in the Northern region and who holds a bachelor degree with a Diploma in Education believed that:

*“We are humans and different so it is normal to see that different perspectives exist between the administrative staff and teachers. However, these differences always lead to solutions and to the best policy to manage the school”.*

”نحن بشر ولا بد ان يكون هناك اختلاف في وجهات النظر بين الإدارة و المعلمين. ولكن هذا الخلاف يقود دائما الى حلول و سياسة مميزة لإدارة المدرسة”.

A male teacher who is “*very satisfied*” teaching grade seven in a government building school in the Eastern region and who holds a bachelor degree without a Diploma in Education believed that:

*“The headmaster is cooperative”.*

"المدير متعاون".

A female teacher who is “*satisfied*” teaching grade nine in a rented building school in the Eastern region and who holds a bachelor degree with a Diploma in Education believed that:

*“The administrative staff work hard and according to their capacity”.*

"يعملون بجد و على قدر امكاناتهم".

Teachers revealed that the administrative support is satisfying and that it assists them in doing their job. Teachers explained that even though the school resources were limited but the support they receive from the administration staff is helping them cope. They also appreciated the sense of cooperation and flexibility they received from the administration staff.

### **6.3.3 Discussion of Administrative Support Dimension**

Administrative Support was one dimension that teachers were asked to consider in regard to how they found this dimension and to explain why they judged it as either satisfactory or dissatisfactory. According to the Tickle, Chang, and Kim (2011) study conducted in the USA, administrative support was the most significant predictor of teachers’ job satisfaction and teachers’ job satisfaction was the most significant predictor of teachers’ intent to stay in teaching. Hence, teachers need to be positively recognized, valued

and appreciated by the administrative staff in the school to feel supported (Karsli & Iskender, 2009).

In regard to the quantitative data, teachers were found to be very satisfied with the following items: the respect given to them by the administrative staff (item AS11), their relationship with the principal and assistant principal (item AS16), the level of communication with the administration (AS13), and the way the administration communicated their policies (item AS17). Data revealed that 71 out of 230 (30.9%) teachers were “*very satisfied*” and 16 (7%) teachers were “*not satisfied at all*” with the overall administrative support (item AS19).

The qualitative data provided more details and explanation about why teachers were either satisfied or dissatisfied with their administrative support. Teachers who were satisfied generally stated that the administrative staff was cooperative, supportive, and caring. This is consistent with the study by Lent, Nota, Soresi, and Ginevra (2011). They found, in their study which was conducted in Italy on 235 teachers that teachers are likely to be satisfied when they perceived their school as fair, caring, has a respectful work environment and gives them efficacy-building support.

The group which was dissatisfied with their administrative support had the following issues: school activities, allocating Mathematics lessons in the classroom table, management issues, and interfering in teachers’ work. This is what I found teachers reported that they had issues within their schools. Teachers were dissatisfied with having to participate in school activities outside of their teaching responsibilities in Mathematics. Although these activities may provide a chance for teachers to work together with their

students outside the classroom, Mathematics teachers seemed not excited by such work. They mentioned that Mathematics is difficult and related to students' needs. Teachers found that these activities were a source of stress. Not all schools have enough space to work with these activities. Rented schools are small and the space given for school activities is small. These schools also lack functional air-conditioning systems, especially in summer when the weather is very hot. Therefore, students and teachers cannot bear working under such conditions.

“The morning assemblies are exhausting. The weather is hot in summer, about 40 degrees, but the administration insists on holding morning assemblies in this type of weather. Some of these assemblies are long and useless. I wish they could be cancelled during summer season”

The time allocated for each term is three months. Therefore, it is quite a pressure to finish the curriculum in this given time, as mentioned by one participant:

“The administration staff does not realize how difficult it is to teach Mathematics, instead they add more pressure and ask us to work and spend time on activities that are not included in the curriculum”

These findings were consistent with the findings from the study by Grayson and Alvarez (2008). They found that outside interruption and administrative tasks assigned to teachers were identified as burnout factors that may affect teachers' practices at school. It was also supported by the study by Ferguson, Frost and Hall (2012). They found that workload, student behaviour and employment conditions were factors that may lead to occupational pressures and increase the teacher's anxiety and depression which may lead to teachers' job dissatisfaction.

Teachers in this thesis also hope that the administrative staff, represented by the principal, would adhere to the rules in regards to allocating Mathematics lessons in the first three periods. They claimed it is better to teach students in the first three periods in the table as the last four periods students are lazy and will not concentrate.

Teachers were dissatisfied by how the administrative staff are taking students' side and blaming teachers for students' low achievement in Mathematics and over attending their lessons. Teachers were demanding for rules that organize relationship between teachers and administrative staff as well as teachers and students. A number of studies that were reviewed in this research have discussed similar issues to the ones found by this study. In the literature, Hosseinkhanzadeh, Hosseinkhanzadeh, and Yeganeh (2013) defined organizational culture, which is not found in schools in Jeddah, as a collection of values, relationships, and standards that are presented within the organization. Schools have to employ a well-defined organizational culture function in a positive way and develop a well-organized learning community (Streans, Banerjee, Mickelson, & Moller, 2014). In Tehran, Hosseinkhanzadeh et al. (2013), examined the relationship between the organizational culture and job satisfaction among 123 middle school teachers. Teachers in their study answered a Darabi's Organizational Culture Questionnaire Hosseinkhanzadeh et al. (2013). The study found that there is a positive relationship between how the administrative staff establish and promote their organizational culture, the school values and the way they deliver them to teachers and the levels of teachers' job satisfaction. Some teachers in this thesis explained how the administrative staff used to take the students side and blame the teachers for students' low achievement in Mathematics.

Regarding the quantitative results for this dimension, teachers were overall satisfied with administrative support (AS). In the qualitative data, teachers gave reasons to justify their feelings of satisfaction or dissatisfaction with administrative support (AS). Among these reasons were: school activities, Mathematics lesson allocation in the classroom timetable, management issues, interfering in teachers' work and appreciation and support.

### **6.3.4 Quantitative Results: Workplace Atmosphere (WA)**

Table 6.5 below shows teachers' levels of satisfaction in regards to workplace atmosphere. There are ten items in the table that teachers were asked to rate their level of satisfaction regarding them. These items are about: the relationship participants have with their colleagues (WA21), level of professionalism exhibited among colleagues in participants buildings (WA22), cleanliness and level of general maintenance of participants buildings (WA23), use of space in their buildings (WA24), level of stress participants experience in relation to what their expectations are them with respect to their buildings (WA25), degree of similar interests the participants share with their colleagues in the same school (WA26), degree to which participants co-workers stimulate them to do better work (WA27), availability of teaching materials and equipment to use inside the classrooms (WA28), and quality of the school's ICT, labs, and library (WA29). Finally, teachers are asked to choose their overall level of satisfaction with workplace atmosphere (WA30).

Table 6.5

*Teacher's levels of Satisfaction with Workplace Atmosphere (WA)*

N	Items	Not satisfied at all	Not satisfied	Neutral	Satisfied	Very satisfied
WA21	The relationship you have with colleagues.	5 (2.2%)	3 (1.3%)	8 (3.5%)	62 (27%)	<b>152 (66.1%)<sup>3</sup></b>
WA22	The level of professionalism exhibited among colleagues in your building.	4 (1.7%)	8 (3.5%)	18 (7.8%)	95 (41.3%)	<b>105 (45.7%)</b>
WA23	The cleanliness and level of general maintenance of your building.	60 (26.1%)	<b>64 (27.8%)</b>	45 (19.6%)	44 (19.1%)	17 (7.4%)
WA24	The use of space in your building.	31 (13.5%)	<b>62 (27%)</b>	55 (23.9%)	58 (25.2%)	24 (10.4%)
WA25	The level of stress you experienced in relation to your building.	29 (12.6%)	55 (23.9%)	44 (19.1%)	<b>72 (31.3%)</b>	30 (13%)
WA26	The degree of similar interests you share with your colleagues at school.	5 (2.2%)	24 (10.4%)	63 (27.4%)	<b>114 (49.6%)</b>	24 (10.4%)
WA27	The degree to which your co-workers stimulate you to do better work.	10 (4.3%)	23 (4.3%)	57 (24.8%)	<b>89 (38.7%)</b>	51 (22.2%)
WA28	The availability of teaching materials and equipment to use inside the classroom.	<b>87 (37.8%)</b>	66 (28.7%)	28 (12.2%)	36 (15.7%)	13 (5.7%)
WA29	The quality of the school's ITC, labs, and library.	<b>82 (35.7%)</b>	64 (27.8%)	27 (11.7%)	35 (15.2%)	22 (9.6%)
WA30	The overall level of satisfaction with your workplace atmosphere.	<b>37 (16.1%)</b>	<b>50 (21.7%)</b>	44 (19.1%)	<b>67 (29.1%)</b>	<b>32 (13.9%)</b>
31-	Could you please provide more explanation to your choice in item WA30?					

The analysis in Table 6.5 revealed that teachers were somewhat satisfied with their workplace atmosphere (WA). It can also be seen that for WA30, the overall level of satisfaction with workplace atmosphere, a slightly higher percentage of teachers who reported "very satisfied" or "satisfied" (67+32=99 or 43.0%) compared to those who reported "not satisfied" and "not satisfied at all" (37+50=87 or 37.8%).

Table 6.5 illustrates that teachers who reported being "very satisfied" with the relationship they have with their colleagues (item WA21) were 152 (66.1%). In addition, there were 105 (45.7%) teachers who reported being "very satisfied" with the professionalism exhibited among colleagues in their building (item WA22). Then, there were 114 (49.6%) teachers who reported being "satisfied" with the degree of similar

<sup>3</sup> the highlighted cells are the significant in number

interests they share with their colleague in school (item WA26).

Out of 230 teachers, there were 64 (27.8%) teachers who reported being “*not satisfied*” with the level of cleanliness and level of general maintenance of the building (item WA23). Also there were 62 (27%) teachers who reported to be “*not satisfied*” with the use of space in the building (item WA24). The levels of dissatisfaction increase in respect to the availability of teaching materials and equipment to use inside the classroom (item WA28), as there were 87 (37.8%) teachers who reported being “*not satisfied at all*”. There were also 82 (35.7%) teachers who reported being “*not satisfied at all*” with the quality of the school’s ICT, labs, and library (item WA29).

Teachers were in general dissatisfied with the level of cleanliness and level of general maintenance of their school building (item WA23), the use of space in the building (item WA24), the availability of teaching materials and equipment to use inside the classroom (item WA28), and the quality of the school’s ICT, labs, and library (item WA29).

### **6.3.5 Qualitative Results: Workplace Atmosphere (WA)**

In this sub-section, teachers' explanations to their responses on the overall satisfaction relating to workplace atmosphere (WA) are analysed and presented. WA30 asked teachers to rate their overall satisfaction to WA, and the open-ended question (item WA31) asked them to explain their response to WA30.

First, I present a table in which I describe the number of teachers and their distribution in relation to their choice of their overall level of job satisfaction for workplace atmosphere. Regarding the open-ended question (item WA31) that follows the quantitative questions, (see Table 6.5). From a total of 230 teachers who participated in this dimension, there were 49 (21%) teachers who answered the qualitative question.

Teachers who reported different levels of satisfaction to WA30 about their overall satisfaction with workplace atmosphere gave their explanation in the open-ended question (item WA31). There were teachers who were overall satisfied in WA30 with workplace atmosphere but gave a qualitative answer to the open-ended question (item WA31) that includes issues of dissatisfaction. However, still these answers were included in the analysis and coded. There were three answers that were either not meaningful or verses from the Holy Quran, and they were removed (see Chapter Five). I also found that some teachers wrote about more than one issue in one answer (see Table 5.6 Chapter Five) still these answers were coded twice under different themes. Therefore, only 46 (93.9%) teachers out of 49 provided relevant answers that could be coded and analyzed. The distribution of teachers who provided relevant answers, according to their levels of satisfaction to workplace atmosphere, can be seen in Table 6.6.

Table 6.6

*Frequency distribution of teachers who gave relevant explanations about their overall satisfaction of Workplace Atmosphere (WA)*

Dimension	Workplace Atmosphere (WA)					
Theme 1	Insufficient resourced environment					
Responses to WA30	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	7(25.9%)	9(33.3%)	2(7.4%)	7(25.9%)	2(7.4%)	27(100%)
Theme 2	Safety and Hygiene Issues					
Responses to WA30	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	9(36%)	8(32%)	2(8%)	4(16%)	2(8%)	25(100%)
Theme 3	Evening Classes					
Responses to WA30	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	4(50%)	2(25%)	0(0%)	2(25%)	0(0%)	8(100%)
Theme 4	Relationship with Colleagues					
Responses to WA30	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	1(33.3%)	1(33.3%)	0(0%)	1(33.3%)	0(0%)	3(100%)
Theme 5	Advanced School Buildings					
Responses to WA30	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	0(0%)	0(0%)	0(0%)	1(33.3%)	2(66.7%)	3(100%)

As seen in Table 6.6, the qualitative part of this dimension, teachers complained about many issues such as: insufficient resourced environment, safety and hygiene issues, evening classes, and relationship with colleagues. Some teachers were satisfied with workplace atmosphere and mentioned advanced school buildings.

#### 6.3.5.1 Insufficient Resourced Environment

First, out of 46 teachers, there were 27 (58.7%) teachers who accused the workplace atmosphere of lacking the necessary equipment for teaching resources. Teachers complained about the fact that they buy their resources. This costed them money and effort. Teachers wanted to have labs and ICT rooms at school. The workplace failed in providing teaching aids and ICT rooms so teachers bought their own aids and organized their own ICT rooms from their money. They also complained about the students big numbers in the classrooms. They stated that classes are crowded with students and are small in space.

Some of the issues above were often found together in one answer. Sometimes teachers mentioned one or two issues in one answer or mentioned more than one issue. This was repeated in teachers' answers to the open- ended question (item WA31). Therefore, they were coded under one theme: insufficient resources environment.

As can be seen in Table 6.6, teachers who mentioned about lack of teaching aids , crowded students, and small size classrooms were distributed between those who were dissatisfied (*not satisfied at all*=25.9%, *not satisfied*=33.3%) and satisfied (*satisfied*=25.9%, *very satisfied*=7.4%) with the overall workplace atmosphere item (WA30).

A “*not satisfied at all*” female teacher teaching grade nine in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education stated that:

*“There are no Mathematics labs in order to place my teaching aids. I bought almost all my teaching aids, laptop and drawing tools. I carry all these equipment from class to another. Moreover, classes are crowded with 40 students and this means that I cannot implement group work activities and some of the teaching strategies”*

"لا يوجد أي معامل خاصة للرياضيات كي أضع أدواتي الخاصة بها. كما أنني أقوم بشراء جميع الوسائل التعليمية كأدوات الرسم و جهاز الكمبيوتر و أنتقل بها من فصل الى آخر. الفصول أيضا مزدحمة و يصل عدد الطالبات الى اربعين طالبة في الفصل الواحد و هذا ما يصعب علي تطبيق الأنشطة الجماعية و بعض استراتيجيات التعليم"

Another “*not satisfied*” female teacher teaching grade eight in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education mentioned that:

*“The learning environment is not attractive for both students and teachers. There are no teaching aids and convenient big classrooms to teach”*

"البيئة التعليمية غير جاذبة سواء للطالبات أو المعلمات. ليس هناك أي وسائل تعليمية أو حتى فصول واسعة ومريحة للتدريس"

Another “not satisfied” male teacher teaching grade seven in a rented school building from the Southern region and holding a bachelor degree with a Diploma in Education also mentioned:

*“In my class there are thirty five students and the classroom is small. It is noisy and difficult to manage this number of students”.*

"في فصلي 35 طالبا و الفصل صغير جدا. هذا يزعجني و يجعل من الصعب علي التحكم في هذا العدد من الطلبة"

A “not satisfied” female teacher teaching grade eight in a government school building from the Southern region and holding a bachelor degree without a Diploma in Education stated that:

*“The school building is not originally prepared for teaching. The school lacks teaching aids for the subject. Therefore, we have to bring our own teaching aids. Classes are small and crowded with students and in this atmosphere it is impossible to implement any teaching strategies”*

"مبنى المدرسة من الأصل غير مجهز للتدريس كما أنه يفتقد الوسائل التعليمية المناسبة للدرس ولذلك يجب علينا احضارها بأنفسنا. الفصول ضيقة و مزدحمة بالطلاب و هذا لا يساعد على تطبيق اي استراتيجيات تعليمية"

A “satisfied” male teacher teaching grade nine in a rented school building from the Eastern Region and holding a bachelor degree without a Diploma in Education mentioned that:

*“The school building is rented so the classroom space differs from one class to another so you may find yourself in a big classroom in one period then in a tiny class in another period. This may affect students’ understanding. For this reason, me and another teacher established and organized a mathematics lab with all the required teaching aids”*

" المبنى المدرسي مستأجرو الفصول الدراسية مختلفة المساحات و لذلك أجد نفسي أحيانا في فصل واسع في احدى الحصص و من ثم فصل صغير في حصة أخرى. هذا يؤثر على فهم الطلبة للدرس و

لهذا السبب أنشأت أنا و أحد معلمي الرياضيات معملا خاصا لمادة الرياضات و زودناه بكل الوسائل التعليمية المطلوبة"

A "satisfied" male teacher teaching grade seven in a government school building from the Central region and holding a bachelor degree with a Diploma in Education stated that:

*"We have a room at my school which is a learning resource room but we do not use it in an effective way as the room is small and barely takes twenty students, so we use it for teachers and parents meetings."*

" لدينا غرفة مصادر تعلم ولكنها لا تكفي الا لعدد بسيط من الطلبة لا يتجاوز العشرون طالبا. الإستفادة منها معدوم ولذلك اصبحت تستخدم لأجل اجتماعات المعلمين وأولياء أمور الطلبة "

A "not satisfied" male teacher teaching grade eight in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education said:

*"In my school there is no teaching and learning resources room and no library. I buy all the teaching materials that I need to support students' learning"*

" لا يوجد في مدرستي مصادر للتعلم ولا حتى مكتبه ولذلك أشتري جميع الوسائل التعليمية التي تساعدني في تعليم الطلبة"

Teachers found the workplace atmosphere lacks sufficient resources. They were dissatisfied with the lack of learning and teaching resources. They were paying for all teaching aids and this is a burden that they cannot bear anymore. They also found themselves paying for ICT rooms. They struggled to teach students in crowded and small classrooms. All these reasons had made working in such teaching environment unattractive.

### 6.3.5.2 Safety and Hygiene Issues

Safety and hygiene issues were reasons that caused feeling of dissatisfaction with workplace atmosphere. It can be seen in Table 6.5 that there were 64 (27.8%) teachers reported being “*not satisfied*” with the level of cleanliness and level of general maintenance of participants building (item WA23). Also there were 62 (27%) teachers who reported to be “*not satisfied*” with the use of space in the building (item WA24). Safety issues were related to the design of the school building such as the absence of emergency exits, exposed electrical wires, and narrow corridors. Hygiene issues were related to crowded classrooms that might influence the quality of aeration inside the classroom, especially when the weather is hot. There is also the unhealthy food that is sold in the school canteen. There were 25 (54.3%) dissatisfied teachers with the safety and hygiene issues in the school.

As can be seen in Table 6.6, teachers who mentioned about safety and hygiene issues were roughly distributed between those who were dissatisfied (*not satisfied at all*=36%, *not satisfied*=32 %) and satisfied (*satisfied*=16%, *very satisfied*=8%) with the overall workplace atmosphere (item WA30).

A “*not satisfied*” male teacher teaching grade seven in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education mentioned:

*“I have forty students in my classroom. The air conditioner system is poor and this negatively affects the teachers’ and students’ performance; the weather is often hot. The Ministry should work on having the buildings ready for students and teachers to teach and learn in”*

يضم الفصل اربعين طالبا. نظام التكييف سيئ جدا و يؤثر على تحصيل الطلبة حيث ان الجو دائما حار. يجب على وزارة التعليم العمل على تجهيز المباني لتكون مناسبة تعليميا للمعلمين و الطلبة

A “satisfied” male teacher teaching grade eight in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education mentioned:

*“The weather is very hot and classes are crowded which means that the learning environment is not suitable and healthy”*

"الجو حار جدا و الفصل مزدحم وهذا يعني أن الجو التعليمي غير مناسب وأيضا غير صحي"

A “satisfied” female teacher teaching grade eight in a rented school building from the Central region and holding a bachelor degree with a Diploma in Education mentioned:

*“The school building is rented and the number of students is big. Therefore, the building requires a continuous maintenance especially the air conditioner and the lights inside the classrooms, and this barely happens”*

" المدرسة مستأجرة و تضم أعداد كبيرة من الطلبة. المبنى المدرسي بحاجة الى صيانه مستمرة خصوصا لأجهزة التكييف و الإضاءة داخل الفصول ولكن من النادر أن يحدث ذلك"

A “very satisfied” male teacher teaching grade seven in a rented school building from the Southern region and holding a bachelor degree without a Diploma in Education claimed:

*“The school is often exposed to electricity shocks because of the rotten air conditioners and other electricity machines. This is because these machines have a capacity and they exceeded their abilities to serve. The school building is old and poor which puts a threat on the students’ and teachers’ safety”*

" تتعرض المدرسة ل ماس كهربائي بين فترة و أخرى و ذلك نتيجة لسوء أجهزة التكييف وأضافة أجهزة كهربائية أخرى دون النظر لمدى تحمل عداد الكهرباء لهذه الإضافات. مبنى المدرسة قديم و متهالك وهذا ما يمثل خطرا حقيقيا على سلامتتنا و سلامة الطلاب ."

A “Not satisfied” female teacher teaching grade seven in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education stated:

*“The school lacks safety tools and equipment. Classrooms are next to each other and students are big in numbers. This has made the administrative staff work on founding an emergency exit but it is too small and not practical and may put students’ lives into danger”*

" تفتقد مدرستنا لوسائل الأمن و السلامة . الفصول متقاربة و عدد الطالبات كبير جدا. مخارج الطوارئ معدومه مما جعل ادارة المدرسة تعمل على ايجاد مخرج خاص للطوارئ ولكنه ضيق و غير عملي و يعرض سلامة الطالبات للخطر "

A “Not satisfied at all” female teacher teaching grade nine in a government school building from the Western region and holding a bachelor degree with a Diploma in Education stated:

*“When I was pregnant, I found it difficult to move from one floor to the other using stairs only so I applied for a sick leave”*

" عندما كنت في أشهر الحمل كان من الصعب علي الانتقال من دور الى آخر باستخدام الدرج فقط و لذلك قررت الحصول على اجازة مرضية "

A “satisfied” male teacher teaching grade seven in a government school building from the Southern region and holding a bachelor degree with a Diploma in Education was complaining from the nature of the building. He stated that:

*“There are no playgrounds for students at school. All activities are performed indoors. I feel like I am teaching in a multi-storey prison”*

" لا يتوفر في المدرسه أي منطقة للألعاب . جميع الأنشطة تقام داخل المبنى فقط . أشعر و كأنني في سجن متعدد الأدوار "

Teachers were dissatisfied with the quality of food and the toilet conditions. A “satisfied” female teacher teaching grade nine in a government school building from the Southern region and holding a bachelor degree with a Diploma in Education said that:

*“The school canteen provides unhealthy food for students and the teachers complained but the company that supplies the canteen with goods has already signed with the ministry a long term contract”*

" المقصف المدرسي يقدم وجبات غير صحية للطالبات و المعلمات و على الرغم من اعتراضنا إلا أن  
وزارة التعليم قامت بتوقيع عقد طويل الأجل مع الشركة "

A “not satisfied at all” male teacher teaching grade seven in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education stated that:

*“There is no healthy food in this school”*

" لا يوجد أي غذاء صحي في هذه المدرسة "

A “not satisfied” female teacher teaching grade seven in a government school building from the Eastern region and holding a bachelor degree with a Diploma in Education claimed that:

*“The school canteen does not provide healthy food. There is also the teachers’ café. It is poor and not clean. We cannot use it to prepare tea and lunch. Moreover, teachers’ toilets are broken and useless. I would like to see private companies managing our school to provide better services”*

" المقصف المدرسي لا يوفر أغذية صحية , وكافتيريا المعلمات غير مكتملة و تفتقد النظافة و لا يمكننا استخدامها لإعداد الشاي و وجبة الغداء. أتمنى أن يكون هناك شركة خاصة تدير مقصف المدرسة لتوفر خدمات أفضل "

Supporting the above claim, a “not satisfied at all” male teacher, teaching grade nine in a government school building from the Central region and holding a bachelor degree without a Diploma in Education said that:

*“The type of food sold in the school canteen is unhealthy. It causes obesity among students”*

" الغذاء الذي يباع في مقصف المدرسة غير صحي و يسبب السمنة للطلبة "

Another “*not satisfied*” female teacher teaching grade eight in a rented school building from the Southern region and holding a bachelor degree with a Diploma in Education mentioned that:

*“The building is not clean. There are no hygiene items such as soap and not enough tissues. The teachers provide the toilet supplements for the school”*

"المبنى غير نظيف ولا يحتوي أدوات نظافة كالصابون و المناديل. المعلمات في العادة هم من يوفرها للمدرسة"

Teachers were dissatisfied with hygiene and safety issues at schools. For them, improving the level of cleanliness and providing ventilation resources in the classrooms and the school as a whole is very important. This will improve the health levels of the teaching environment at school. Teachers also complained from the absence of safety regulation at schools. They were concern from the narrow lanes between classrooms and the exposed electrical wires.

Female teachers were dissatisfied with the way school buildings were constructed, buildings of multiple levels, they believed that an elevator is essential to accelerate their move from one level to another especially when they are pregnant. Finally, teachers drew attention to the food that was sold in the school canteen. It is low in quality, unhealthy and could cause obesity among students.

#### **6.3.5.3 Evening Classes**

Out of 46 teachers, there were 8 (17.4%) female teachers who were dissatisfied from the evening classes (see Table 6.6). These teachers teach after 12pm because of building shortage. This means that two schools with different students, teaching staff, and administrative staff share one school building. The first group is the morning group which

starts at 6:45 and ends at 12:45. The evening group starts at 1 pm until 5 pm. Teachers stated that students come exhausted and do not want to learn. They also found it difficult to balance between their household demands and school time.

As can be seen in Table 6.6, teachers who mentioned about the evening classes were roughly distributed between those who were dissatisfied (*not satisfied at all*=50%, *not satisfied*=25%) and satisfied (*satisfied*=25%, *very satisfied*=0%) with the overall workplace atmosphere (item WA30).

A “*not satisfied*” female teacher teaching grade seven in a government school building from the Central region and holding a bachelor degree with a Diploma in Education claimed that:

*“We don’t have an independent school building, thus, the working hours are in the afternoon from 1pm to 5pm. We don’t have a stable school environment because of the delayed working time and students’ learning is declining”*

" لا يوجد مبنى خاص للمدرسة ولذلك نعمل في الوقت المسائي من الساعه الثانيه حتى السادسة . لا يوجد استقرار بسبب وقت العمل المتأخر وهذا ما تسبب في هبوط مستوى تعليم الطالبات"

A “*satisfied*” male teacher teaching grade nine in a government school building from the Central region and holding a bachelor degree without a Diploma in Education stated that:

*“I find out that it’s very difficult to work at an evening school. In the morning, my children are at school and when they return from school I have to leave for work. I do not have the time to sit with them and talk to them”.*

"اكتشفت أنه من الصعب علي العمل في المدارس المسائية حيث لا يوجد لدي وقت للجلوس و الحديث مع اطفالي حيث أنني اغادر للمدرسة في الوقت الذي يحضرون هم فيه للمنزل"

A “not satisfied at all” female teacher teaching grade seven in a government school building from the Eastern region and holding a bachelor degree with a Diploma in Education said that:

*“It’s very difficult to work at an evening school. In the morning, my children are at school and when they return from school I leave to work. I do not have the time to sit with them and talk to them”*

“من الصعب جدا العمل في الفترة المسائية. لا يوجد فترة للحديث و الجلوس مع ابنائي فهم يذهبون في الصباح للمدرسة وعندما يعودون للمنزل أنا أغادر الى مدرستي”

A “very satisfied” male teacher teaching grade eight in a government school building from the Eastern region and holding a bachelor degree with a Diploma in Education said:

*“I am satisfied with the school atmosphere. However, it has been three years now since I applied for moving to a morning school and no one responded”*

“أنا راضي عن البيئة المدرسية على الرغم من مرور ثلاث سنوات منذ قدمت على الإنتقال الى مدرسة صباحية ولكن لم يتم الرد علي”

A “satisfied” female teacher teaching grade seven in a government school building from the Northern region and holding a bachelor degree with a Diploma in Education stated:

*“In the evening schools, Mathematics periods are short. It is only 35 minutes. This time does not allow me to complete the lessons”*

“في الفترة المسائية حصة الرياضيات قصيرة جدا . خمس و ثلاثون دقيقة لا تسمح لي بإنهاء الدرس”

Teacher found that attending evening classroom is exhausting. They stated that it was very difficult for them to manage between their duties towards their families and school teaching. They also stated that because school starts in the evening students seemed not motivated to learn as this time of the day they were lazy and exhausted. Finally, they

mentioned that time is also an issue in the evening classes. It is 35 minutes which is ten minutes less than the morning classes. This was not enough time for teaching and implementing textbooks exercise. Therefore, students often fall behind in the curriculum.

#### 6.3.5.4 Relationship with Colleagues

There was also the issue of professional relationship among teachers. Out of 46 teachers, there were 3 (6.5%) teachers who mentioned, two females and one male, that their relationship with their colleagues is not professional.

As can be seen in Table 6.6, two out of the three teachers were dissatisfied (one *not satisfied at all* and one was *not satisfied*) and one was *satisfied* with the overall workplace atmosphere (item WA30).

One “*satisfied*” female teacher teaching grade nine in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education described her school as being:

*“Teachers are divided into groups just like political parties. We only meet at lunchtime and there is nothing important to discuss besides personal lives. We do not gather to discuss how we teach or which methods work or don’t work in Mathematics education”*

"المعلمات في المدرسة يتوزعن على شكل مجموعات تشبه الأحزاب السياسية. دائما ما نجتمع وقت الغداء فقط ولكن من النادر أن يحدث بيننا أي لقاءات أو اجتماعات للنقاش حول طرق تدريس المادة"

Another “*not satisfied*” female teacher teaching grade seven in a government school building from the Western region and holding a bachelor degree with a Diploma in Education claimed that:

*“The relationship between teachers is not good”*

"العلاقة بين المعلمين ليست جيدة"

A “*not satisfied at all*” male teacher teaching grade seven in a government school building from the Central region and holding a bachelor degree with a Diploma in Education stated that:

*“My colleagues at school are not cooperative”*

"زملائي المعلمين في المدرسة غير متعاونين"

Teachers complained from their relationship with each other at school. They stated that these relationships are not cooperative and practical.

#### **6.3.5.5 Advanced School Buildings**

As can be seen in Table 6.6, out of 46 teachers, there were 3 (6.5%) teachers who were satisfied with workplace atmosphere and gave their comments. There are others who were satisfied but did not give their explanations about why they were satisfied. They mentioned that the school building is excellent and they enjoy working there.

A “*satisfied*” male teacher teaching grade seven in a government school building from the Northern region and holding a bachelor degree with a Diploma in Education said that:

*“My school is one of the best schools in Jeddah and has all the learning resources required. Student numbers are small in each class which is suitable. The only negativity is the supervisor' visitations to the school. This school is a good example of an excellent school building”*

"مدرستي من المدارس النموذجية في جدة وتحتوي كل الوسائل التعليمية المطلوبة و أعداد الطلبة في الفصل الواحد مناسب جدا . الجانب السلبي فيها هو كثرة الوفود الزائرة للمدرسة من المشرفين التربويين لأنها مثال للمدرسة المتكاملة"

A "very satisfied" female teacher teaching grade seven in government school building from the Western region with a bachelor degree and without a Diploma said that:

*"In my school, we implement the system of moving from one class to another. Teachers teach each lesson in a different classroom. It is like a university"*

" في مدرستنا تطبق فكرة الفصول المتنقلة بحيث يكون هناك فصول خاصة لكل مادة و ينتظر المعلم في الفصل و الطلاب هم المتحركون . انها طريقة مشابهه لما يحصل في الجامعات "

A "very satisfied" male teacher teaching grade eight in a government school building from the Central region and holding a bachelor degree with a Diploma in Education stated that:

*"This year, we moved from a rented building to a government building. I feel like there are huge differences between the two buildings. Classrooms are big and learning resources are available"*

" في هذا العام انتقلنا من مبنى مدرسي مستأجر الى مبنى مدرسي حكومي و متكامل . أشعر أن هناك فرقا كبيرا بين المبنى السابق و الحالي. الفصول واسعه و مصادر التعلم متوفره "

Teachers teaching in government schools found their workplace atmosphere satisfied. They mentioned that their schools are large and provided all teaching resources. These two reasons were the source of their satisfaction with the workplace atmosphere.

### 6.3.6 Discussion of the Workplace Atmosphere Dimension

Workplace atmosphere was the second dimension that teachers were required to give feedback in regard to being either satisfied with it or dissatisfied. The quantitative data shows the following: the overall level (item 30WA) of satisfaction with the workplace atmosphere was as follows: teachers who were “*very satisfied*” and “*satisfied*” ( $67 + 32 = 99$  or 43.0%) and teachers who were “*not satisfied*” and “*not satisfied at all*” ( $50+37= 87$  or 37.8%).

In regard to the qualitative data, teachers mentioned that they were dissatisfied with the following: insufficient resourced environment, safety and hygiene issues, evening classes, and relationship with colleagues. Teachers were satisfied with the advanced school buildings.

The results indicated that it is essential for the teachers to be under suitable working conditions. This was supported by the literature reviewed in this study. For example, China, Sargent and Hannum (2005) found that teachers were satisfied in schools with high socio - economic status, which provide comprehensive teaching facilities. Moore (2012) also found that school environment is one of the most important causes of dissatisfaction among public school teachers.

In this study, teachers complained about classroom size and school safety. Teachers were dissatisfied with crowded classrooms. According to Brunetti (2001), conditions such as large class sizes, a highly diverse student population, inadequate facilities and a shortage of supplies and equipment may affect teachers’ satisfaction levels.

Teachers who participated in this study complained from big classes in the number of students. In Saudi Arabia, the rented schools are small in space size but they have a large number of students enrolled. Working in these types of schools (with large numbers of students) is viewed by the teachers to be uncomfortable and annoying. They mentioned that the small classrooms are an obstacle for implementing group learning and certain activities that require students to move around. They also mentioned that with large number of students it is hard to control and know the students. According Lee and Leob (2000) from Chicago, in small size schools with few students, teachers know their students and their educational levels well. The study also indicated that teachers, in these schools, have a positive attitude towards their students learning and, as a result, students' achievement in Mathematics was better than their counterpart in middle and large schools. Additionally, Ninomlya and Okata (1990) results also supported the findings of this study. They found that the government needs to improve job satisfaction for teachers by reducing the class size, increasing training courses and increasing the salary.

There were also complaints about the lack of teaching aids and that teachers were paying for these aids out of pocket. This may mean that teachers are facing a financial burden that they should not be responsible for. The Ministry through Regional Offices should provide teachers with all these aids.

In addition, and in regard to health and safety issues, teachers pointed out the lack of maintenance services in schools. They stated that these buildings are poor and not suitable to be a proper school. Air conditioners and lights inside the classrooms are not working and often broken. Jeddah is known for its hot weather and the weather during almost all of the teaching periods is hot. Therefore, looking after the cooling system at schools is a necessity

for students' and teachers' health. It is also important as these machines create an atmosphere that teachers can work under. Thus, when the air conditioner is not working, students and teachers feel the heat and hence, the teachers are unable to teach in an effective manner. The situation becomes worse if the building is rented as classrooms are small and crowded. Similar issues were discussed by Mark (2002). He found that one in five children in American schools suffer from health problems that affect their eyes, nose, and throat as a result of the poor ventilation and spread of bacteria in such a humid climate. He describes these as "poor indoor air quality" (IAQ) (Mark, 2002, p.2). Mark concluded that poor indoor air quality makes teachers and students sick; an issue that decreases their performance and increases the rate of absenteeism.

There is also the danger of electricity shocks that teachers found concerning and requires attention. Teachers arose concerns regarding the small corridors between classrooms. They also mentioned that there are not enough emergency exits. All these factors may endanger the school if something went wrong. In regard to students' wellbeing, teachers wrote that the food provided in the canteen is not healthy. Moreover, all activities are almost indoors. Schools lack green play grounds and the environment outside is not healthy.

Providing a healthy and a safe working atmosphere was the main thing that teachers requested in this dimension. They all seemed to agree on the fact that, for the sake of teachers and students, the Ministry needs to reconsider the conditions of school buildings and teaching aids. They looked forward to more attention in regard to school building, teaching aids, student numbers in each classroom, and the health and safety of students and teachers inside the school building. Finally, I want to highlight a study that was conducted

by a Saudi academic, Khafaji (1980). He investigated the conditions of school building in Jeddah, where this study took place, and found that schools were inadequate and lack basic requirements for effective education. He emphasized the fact that the environment and atmosphere of school buildings and its social and learning rules were the main reason for students to dropout of schools. He also mentioned that the poor conditions of rented school buildings and how they negatively influence Saudi students' willingness to continue at school. Now the situation is the same and the number of rented school buildings has increased.

Teachers also mentioned evening classes. They teach in schools that started in the afternoon from 1pm to 5pm. This happens in crowded district where the number of students in that area is high and the schools cannot cope with this number so schools run in two sessions: morning (6:45 am to 12:45 pm) and afternoon (1pm to 5pm). Teachers stated that in the evening classroom, the time of Mathematics lessons is 35 minutes which is not enough to cover all activities. They also mentioned that evening school are late and they do not have enough time to spend with their families.

In conclusion, regarding the quantitative results for this dimension, teachers were overall satisfied with the workplace atmosphere (WA). In the qualitative data, teachers gave reasons to justify their feeling of dissatisfaction or satisfaction with workplace atmosphere (WA). Among these reasons were: insufficient resourced environment, safety and hygiene issues, evening classes, relationship with colleagues, and advanced school buildings.

### **6.3.7 Quantitative Results: Teaching Efficacy (TE)**

Table 6.7 below shows teachers' levels of satisfaction in regards to teaching efficacy. There are eleven items in the table that teachers needed to decide on their levels of satisfaction regarding them. The first item was about the training teachers received to teach the content in the subject area they were required to teach (TE32). The second is teachers' ability to answer students' questions in regard to the content they were required to teach (TE33). The third item is teachers' capacity to influence student achievement (i.e., higher test scores) (TE34). The fourth item is the level of teachers' satisfaction with the quality of the assessment and its ability to measure the student's achievement in the subject (TE35). The fifth item is the flexibility teachers have to be creative in their teaching approach (TE36). The sixth item is the control teachers have over selecting student learning activities in their classroom (TE37). The seventh item is the degree to which teaching may provide teachers with a good opportunity for advancement (TE38). The eighth item is the degree of flexibility teachers have to select materials to use in their classroom (TE39). The ninth item is teachers' ability to complete the instructional duties that were assigned to them (TE40). The tenth item is teachers' level of understanding of the curriculum for which they are accountable (TE41). The eleventh item is the overall level of satisfaction with their teaching efficacy (TE42). Finally, teachers were asked to provide an explanation to their overall level of satisfaction choice in regards to teaching efficacy (TE43).

Table 6.7

*Teachers' levels of Satisfaction in Teaching Efficacy (TE)*

N	Items	Not satisfied at all	Not satisfied	Neutral	Satisfied	Very satisfied
TE32	The training you received to teach the content in the subject area you were required to teach.	21 (9.3%)	39 (17.3%)	36 (16%)	93 (41.3%)	36 (16%)
TE33	Your ability to answer students' questions in regard to the content you were required to teach.	3 (1.3%)	4 (1.8%)	9 (4%)	76 (33.8%)	<b>133 (59.1%)<sup>4</sup></b>
TE34	Your capacity to influence student achievement (i.e. higher test scores).	5 (2.2%)	9 (4%)	29 (12.9%)	<b>114 (50.7%)</b>	68 (30.2%)
TE35	The level of your satisfaction with the quality of the assessment and its ability to measure the student's achievement in the subject.	4 (1.8%)	11 (4.9%)	25 (11.1%)	92 (40.9%)	93 (41.3%)
TE36	The flexibility you have to be creative in your teaching approach.	2 (0.9%)	9 (4%)	31 (13.8%)	<b>104 (46.2%)</b>	79 (35.1%)
TE37	The control you have over selecting student learning activities in your classroom.	5 (2.2%)	19 (8.4%)	52 (23.1%)	90 (40%)	59 (26.2%)
TE38	The degree teaching may provide you with a good opportunity for advancement.	25 (11.1%)	<b>59 (26.2%)</b>	59 (26.2%)	64 (28.4%)	18 (8%)
TE39	The degree of flexibility you have to select materials to use in your classroom.	11 (4.9%)	44 (19.6%)	53 (23.6%)	79 (35.1%)	38 (16.4%)
TE40	Your ability to complete the instructional duties that were assigned to you.	5 (2.2%)	17 (7.6%)	38 (16.9%)	95 (42.2%)	70 (31.1%)
TE41	Your level of understanding of the curriculum for which you are accountable.	1 (0.4%)	4 (1.8%)	2 (0.9%)	85 (37.8%)	<b>133 (59.1%)</b>
TE42	The overall level of satisfaction with your teaching efficacy	2 (0.9%)	4 (1.8%)	10 (4.4%)	<b>100 (44.4%)</b>	<b>109 (48.4%)</b>
43-	Could you please provide more explanation to your choice in item TE43?					

Teachers who participated in answering this dimension in the survey were 225 (see Table 6.7). As it can be seen in Table 6.7, teachers were satisfied with their teaching efficacy. According to their overall levels of satisfaction (item TE42), teachers who reported being “*satisfied*” were 100 (44.4%) and “*very satisfied*” were 109 (48.4%) with

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the highlighted cells represent the responses with the significant percentage in the table <sup>4</sup>

their teaching efficacy.

As can be seen in Table 6.7 teachers' responses indicated high levels of satisfaction with teaching efficacy. Across all items teachers rated their levels of satisfaction as either "*satisfied*" or "*very satisfied*". There were 133 (59.1%) teachers who reported to be "*very satisfied*" with their ability to answer student questions in regard to the content they were required to teach (item TE33). In addition, there were 133 (59.1%) teachers who reported being "*very satisfied*" with their level of understanding of the curriculum for which they were accountable (item TE41). There were also 114(50.7%) teachers who were "*satisfied*" with their capacity to influence students' achievement (item TE34) and 104 (46.2%) who were "*satisfied*" with the flexibility they have to be creative in their teaching approaches (item TE63). However, there were 59 (26.2%) teachers who reported being "*not satisfied*" with the degree teaching may provide them with a good opportunity for advancement (item TE38).

Teachers were satisfied with their teaching efficacy. Table 6.7 illustrates that teachers reported to be either "*very satisfied*" or "*satisfied*" with most of the items in the table. This is consistent with their overall level (item TE42) of satisfaction with teaching efficacy that was high. There were 109 (48.4%) teachers who were "*very satisfied*" and 100 (44.4%) teachers who were "*satisfied*". The item that was high in levels of dissatisfaction was TE38.

### **6.3.8 Qualitative Results: Teaching Efficacy (TE)**

In this subsection, teachers' explanations to their responses on the overall satisfaction relating to Teaching Efficacy (TE) are analysed and presented. TE42 asked teachers to rate their overall satisfaction to TE, and TE43 asked them to explain their response to TE42.

First, I present a table in which I describe the number of teachers and their distribution in relation to their choice of their overall level of job satisfaction for teaching efficacy. Regarding the open-ended question (item TE43) that follows the quantitative questions, (see Table 6.7), from a total of 225 teachers who participated in this dimension, there were 60 (26.7%) teachers who answered the qualitative question.

Teachers who reported different levels of satisfaction to TE42 about their overall satisfaction with teaching efficacy gave their explanation in the open-ended question (item TE43). Four teachers provided short answers that was too general and fail to give satisfactory answers that could be considered by me and make sense to the reader (see Page Chapter Five). However, I found that some teachers wrote about more than one issue in one answer (see Table 5.6 Chapter Five) still these answers were coded twice as I mentioned in Chapter Five. Therefore, only 56 (93%) teachers out of 60 provided relevant answers that could be coded and analysed. The distribution of teachers who provided relevant answers, according to their levels of satisfaction to teaching efficacy, can be seen in Table 6.8.

Table 6.8

*Frequency distribution of teachers who gave relevant explanations about their overall satisfaction of teaching efficacy*

Dimension	Teaching Efficacy (TE)					
Theme 1	Holding Educational Qualifications					
Responses to TE42	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	1(2.8%)	4(11.1%)	0(0%)	20(55.6%)	11(30.6%)	36(100%)
Theme 2	Teaching Experience					
Responses to TE42	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	0(0%)	3(11.5%)	1(3.8%)	15(57.7%)	7(27%)	26(100%)
Theme 3	Teachers demand Opportunities for Advancements					
Responses to TE42	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	2(40%)	2(40%)	0(0%)	1(20%)	0(0%)	5(100%)

Fifty one teachers participated in answering the qualitative question. In general, most of them agreed that they are well qualified teachers and have the skills and knowledge required in teaching Mathematics. They owed their high levels of teaching efficacy to their: educational qualifications, and teaching experience, described in the following sub-sections.

#### 6.3.8.1 Holding Educational Qualifications

Out of 56 teachers, there were 36 (64.3%) teachers who claimed that their teaching educational background has supported them in understanding teaching practices. They owed this high qualification to their spending time in in-service training courses in the field of professional development activities for teachers. They also claimed that they graduated from universities abroad. As can be seen in Table 6.8, teachers who mentioned about holding educational qualification were distributed between those who were dissatisfied (*not satisfied at all*=2.8% *not satisfied*=11.1%) and satisfied (*satisfied*=55.6%, *very satisfied*=30.6%) with the overall workplace atmosphere (item TE42).

A “*very satisfied*” female teacher teaching grade nine in a government school building from the Northern region and holding a bachelor degree with a Diploma in Education wrote:

“I graduated with a bachelor degree from the U.S.A and have been teaching for around fifteen years. Because I have studied in the States, I believe I am a flexible and a qualified teacher when it comes to dealing with my students”

" تخرجت بدرجة البكالوريوس من أمريكا وأملك خبرة في التعليم تصل الى 15 سنة ولذلك أجد نفسي معلمة مرنة و متمكنة من المادة وأجيد التعامل مع الطالبات "

A “*very satisfied*” male teacher teaching grade eight in a government school building from the Central region and holding a bachelor degree with a Diploma in Education claimed that:

“I attended many training courses that costed me around 40,000 Riyals in order to be able to teach Mathematics. I also attended free training courses in teaching Mathematics that enhanced my teaching knowledge”

" حضرت العديد من البرامج التعليمية و التي كلفتني مبالغ تصل الى 40000 ريال كما حضرت العديد من البرامج التعليمية المجانية في طرق تدريس الرياضيات والتي طورت من معارفي التربوية "

A “*satisfied*” female teacher teaching grade seven in a government school building from the Western region and holding a bachelor degree with a Diploma in Education said that:

“I am very satisfied with the level of my teaching efficacy. I measure this in my students’ acceptance of the subject though it is difficult. I use both traditional and innovative methods of Mathematics teaching. However, I still suffer from a crowded tables that is 24 periods a week; this is the only thing that hinders my progress”

" راضيه جدا عن كفاءتي في التدريس وعرفت ذلك من خلال قبول الطالبات للمادة برغم صعوبتها. لقد استخدمت الطرق القديمة و الحديثة في التعليم أثناء تدريس الرياضيات و مع ذلك لا زلت اعاني من زيادة نصاب الحصص الأسبوعي الذي يصل الى 24 حصة "

A “*very satisfied*” female teacher teaching grade nine in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education wrote:

I am very satisfied with my performance inside the classroom. I taught in a private school for one year which supported my teaching skills. I believe that students’ low results in Math are based on several reasons; one of which is parents. They never cooperate with us or visit the school to know about their children’s level in Math

" أنا راضيه جدا عن أدائي داخل الفصل. سبق لي التدريس في مدارس خاصة لمدة عام واحد و هذا ساهم في تطور مهاراتي في التدريس. سوء نتائج الطلبة في مادة الرياضيات تعود الى اسباب كثيرة من أهمها عدم تعاون أولياء أمور الطلبة معنا و من النادر جدا أن يقوموا بزيارة المدرسة للسؤال عن بناتهم."

A “*satisfied*” male teacher teaching grade nine in a government school building from the Northern region and holding a bachelor degree with a Diploma in Education, said that:

“I depend on myself in developing my teaching skills. I achieve this by reading educational books and try to simplify the subject for the students by using new teaching strategies”

" لقد اعتمدت على نفسي في تطوير قدراتي و ذلك من خلال قراءة مجموعه من الكتب التعليمية لتبسيط المنهج على الطلبة من خلال استخدام استراتيجيات تعليمية جديدة"

A “*satisfied*” male teacher teaching grade eight in a government school building from the Northern region and holding a bachelor degree with a Diploma in Education mentioned:

*“I have a very high teaching efficacy. I prepared a classroom in the school to teach students Mathematics using entertainment tools. I achieved this by browsing the internet and by looking at how other teachers around the world teach Mathematics. I am obsessed with the use of technology in teaching. I attended few training courses in this field. My students respect me because I have the ability to understand them and how they think. However, our unfair education*

*system led me to hold a belief that I am wasting my life in a career that kills creativity”*

"أمتلك ثقة عالية في التدريس. طورت فصل خاص لتعليم الرياضيات بالترفيه وذلك من خلال الاستفادة من مواقع الأنترنت التعليمية وكذلك الاستفادة من تجارب المعلمين حول العالم. قمت أيضا بحضور دورات تدريبية في استخدام التكنولوجيا في التدريس. جميع الطلاب يحترموني لقدرتي على فهمهم وفهم طريقة تفكيرهم. ولكن للأمانه النظام التعليمي غير العادل جعلني أؤمن أنني أضيع وقتي في وظيفة لا تشجع على الإبداع"

A “not satisfied” female teacher teaching grade seven in a rented school building from the Central region and holding a bachelor degree with a Diploma in Education said that:

*“I have graduated from an Education College and hold a Diploma in Education. I also practiced teaching for one year before I started my career. During this year, I learned a lot from my colleagues. This had positively influenced my teaching practices”*

" تخرجت من كلية التربية و أملك دبلوما في التربية كما سبق لي التطبيق في مدرسة متوسطة لمدة عام دراسي قبل تعييني من الوزارة و خلال هذا العام استفدت من خبرات زميلاتي المعلمات مما انعكس على رفع كفاءتي في التدريس ."

The qualitative results generally supported the quantitative results; teachers also claimed that they are satisfied with their teaching efficacy. They pointed out that their teaching efficacy has assisted them in their teaching practices. The sources of their teaching efficacy were their teaching experience and educational backgrounds. While Woolfolk Hoy/Tschannen Moran’s research describes how they constructed tools to measure teachers’ self-efficacy I believe Bandura (whom I am familiar with) is more direct than the others. Bandura (1994) stated that experience, social models, and social persuasion are all sources of self-efficacy. In this research, teachers revealed that their long experience in teaching Mathematics, learning from their colleagues, attending training courses, and their educational levels were

competences that formed their high levels of teaching efficacy.

#### 6.3.8.2 Teaching Experience

Out of 56 teachers, there were 26 (46.4%) teachers who said that they owed their high levels of teaching efficacy to their years of Mathematics teaching (see Table 6.8). Teachers claimed that they have been teaching Mathematics for around ten to twenty years. This has influenced their teaching skills and made them expert teachers, as they described themselves in most of their writing.

As can be seen in Table 6.8, teachers who mentioned about teaching experience were distributed between those who were dissatisfied (*not satisfied at all*=0%, *not satisfied*=11.5%) and satisfied (*satisfied*=57.5%, *very satisfied*=27%) with the overall teaching efficacy (item TE42).

A “*satisfied*” male teacher teaching grade nine in a government school building from the Central region and holding a bachelor degree with a Diploma in Education mentioned:

*“Because I have been teaching Mathematics for twenty years now. I teach my students using different methods of teaching. This is due to my teaching experience”*

"أدرس منذ عشرين عاما و لذلك فأنا قادر على التعامل مع المنهج المدرسي بكل يسر و سهوله على الرغم من تغييره بين فترة وأخرى"

A “*satisfied*” female teacher teaching grade seven in a government school building from the Central region and holding a bachelor degree with a Diploma in Education said that:

*"I am a distinguished teacher as my supervisor says. My teaching experience is fifteen years. I often present model lessons to other teachers with the cooperation of the central Regional Office"*

" أنا معلمه متميزه بشهادة مشرفة المادة. أعمل في التعليم منذ خمسة عشر عاما وأقدم دروس نموذجية للمعلمات بين فترة وأخرى بالتعاون مع مكتب اشراف الوسط "

A "very satisfied" female teacher teaching grade seven in a government school building from the Northern region and holding a bachelor degree with a Diploma in Education mentioned:

*"I have been teaching Mathematics for grade seven since 1998. I never faced any teaching-related problems. I am used to the curriculum and even when the government changed the content, it remained around the same concepts I am used to teach. I developed my own ways and methods of teaching that work with any change"*

"أدرس الصف الثاني متوسط منذ العام 1998. اعتدت على المنهج ولم أواجه أي مشاكل في التدريس حتى مع تغييره حيث أن المحتوى لا تتغير أفكاره كثيرا . لقد طورت طريقي في التدريس لكي تتناسب مع أي تغيير"

A "satisfied" male teacher teaching grade seven in a rented school building from the Southern region and holding a bachelor degree with a Diploma in Education wrote:

*"The more years I spend in teaching, the more I became an expert in teaching"*

"كلما زادت سنوات الخدمة في التدريس كلما اصبحت أكثر خبرة في التعليم"

A "satisfied" female teacher teaching grade nine in a government school building from the Eastern region and holding a bachelor degree with a Diploma in Education stated that:

*"My teaching experience supported and improved my practice inside the classroom"*

"خبرتي في التدريس ساعدتني على تطوير مهاراتي التعليمية داخل الفصل"

### 6.3.8.3 Teachers demand Opportunities for Advancements

Although teachers mentioned that they have high levels of teaching efficacy, there were few issues that they stated and are worth mentioning in this thesis. Out of 56 teachers, there were five (8.9%) teachers complained about their supervisor's interferences. This is similar to teachers; responses to AS20 in sub-section (6.3.2.4). They also complained about being deprived from their rights to promotion and their effort being not appreciated by the administration staff and supervisors. This was in agreement with their choice in Table 6.7, there were 59 (26.2%) teachers who reported “*not satisfied*” with the degree teaching may provide them with a good opportunity for advancement (item TE38). Teachers hope that the Ministry could give them the chance to continue studying abroad and have their share in the scholarship program. They also wanted to see more in-service training courses conducted in the morning instead of the evening.

A “*not satisfied*” male teacher teaching grade eight in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education wrote:

*“I have been teaching for 17 years now but my efforts and devoted time are not appreciated by my supervisor. He still believes that I am not working hard and I should update my teaching methods. It is not important to use computers to teach students. I can use the blackboard only. My supervisor does not hold half of my teaching qualification yet criticizes me every visit”*

“أعمل في التدريس منذ سبعة عشر عاما. أنا راضي جدا عن أدائي داخل الفصل ولكن هذا المجهود غير مقدر من المشرف التربوي لأنه يعتقد بأنني لا زلت بحاجة للتفاعل مع طرق التدريس الحديثة . ليس مهما أن أستخدم الكمبيوتر لتعليم الطلاب إذا كنت أستطيع تعليمهم بالقلم والسيورة . مشرف المادة لا يحمل نصف تجربتي التعليمية و مع

ذلك لا يتوقف عن نقد أدائي عند كل زيارة".

A “*satisfied*” male teacher teaching grade nine in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education mentioned:

*“The school does not appreciate my efforts. I applied to be a vice principal; they told me that I do not have the right to apply because I am a math teacher and there is a shortage in math teachers’ numbers but I believe that Math teachers have the right to look for better job opportunities”*

" المدرسة لم تقدر مجهودي . قدمت أوراقا لي اصبحت وكيل مدرسة ولكن تم رفض طلبي بسبب نقص معلمي مادة الرياضيات. أنا أؤمن أن من حق معلمي الرياضيات البحث على فرص وظيفية أفضل "

Saudi Arabia is in short supply for Mathematics teachers. Therefore, when they apply for promotion to be a principal or vice principal, their application will be refused.

A “*not satisfied at all*” male teacher teaching grade eight in a government school building from the Northern region and holding a bachelor degree with a Diploma in Education said that:

*“I was an excellent student at university and was employed as a year seven teacher years ago. I also got the best teacher’s award twice. I hope that teachers would have a share in the scholarship program. We are deprived from such a chance. No one appreciate our efforts and our ambition to develop and advance our teaching skills”*

" كنت طالبا متميزا في الجامعة و عينت قبل سبع سنوات كمعلم رياضيات كما حصلت على جائزة المعلم المثالي مرتين. أتمنى أن يكون للمعلمين فرصة لإكمال دراستهم خارج السعودية. نحن محرومون من هذه الفرصة ولا أحد يقدر مجهودنا و طموحنا في تطوير مهاراتنا التعليمية "

The teacher above is demanding for a chance in the scholarship program in Saudi Arabia. The scholarship program has opened its doors since 2004 to all applicants from different sectors in Saudi Arabia such as Higher Education and the Medical Department sectors employee expect for teachers.

A “*not satisfied at all*” male teacher teaching grade nine in a rented school building from the Southern region and holding a bachelor degree with a Diploma in Education stated that:

*“I attended around ten training courses in a training centre in the evening. This had helped me in developing my teaching skills. I hope we can have the same courses but in the morning so many teachers can attend them”*

" حضرت عشر دورات في مركز التدريب و التي تقام مساء و هذا ساعدني في تطوير مهاراتي في التدريس. أتمنى أن تقام هذه الدورات صباحا لكي يحضرها عدد أكبر من المعلمين "

A “*not satisfied*” female teacher teaching grade seven in a government school building from the Southern region and holding a bachelor degree with a Diploma in Education said that:

*“The headmistress and the supervisor asked me to attend training courses to know more about teaching. These courses are conducted in the evening. I cannot attend them as, at this time, I am busy looking after my family and cannot leave the house in the morning and also in the evening”*

" مديرة المدرسة و مشرفة المادة يطلبان مني حضور برامج تدريبية لتطوير قدراتي. هذه الدورات تقام مساء و من الصعب علي حضورها لظروفي العائلية و لذلك من الصعب الإبتعاد عن المنزل في فترتي الصباح و المساء "

Experienced teachers were satisfied with their teaching efficacy. They found

that experience had given them the advantage of being able to teach Mathematics and adopt different methods of teaching. Experience had helped them with implementing the curriculum in different grades. However, teachers hoped that they had the chance to study abroad and be granted scholarships. They also wanted to have their in-services training course held in the morning or on holidays so they can have the chance to attend.

### **6.3.9 Discussion of the Teaching Efficacy Dimension**

As mentioned previously in the literature, the concept of teaching efficacy is the ability to employ behavioural, motivational, cognitive and social skills to serve certain purposes (Bandura, 1993). It marks the difference between possessing knowledge and being able to use knowledge under different circumstances (Bandura, 1993). Teachers in Jeddah were satisfied with their levels of teaching efficacy. The quantitative overall TE42 results revealed that 109 (48.4%) teachers were “*very satisfied*” and 100 (44.4%) teachers were “*satisfied*”. However, teachers were “*not satisfied*” with TE38. This was a significant result as teachers provided explanations to their choice in the open-ended question (item TE43).

The qualitative results supported the quantitative results, teachers also claimed that they are satisfied with their teaching efficacy. They pointed out that their teaching efficacy has assisted them in their teaching practices. This suggestion by teachers in this thesis that high levels of teaching efficacy may enable teachers teach well is supported by Somech and Zahavy (2000) study, which was conducted in Israel. The result suggested that teachers with self-efficacy were able to perform their duties in a perfect manner.

Teachers mentioned two factors that contributed to their high levels of teaching efficacy. These factors, according to the teachers in this study, seemed to contribute to their high levels of satisfaction with teaching efficacy. First, their teaching experience, most teachers in this study indicated that their teaching experience supported them in their teaching practices. They became used to the curriculum and knew how to deal with students. These results contradicted what Klassen and Chiu (2010) found in their study. Their findings revealed that self-efficacy varies with teaching experience. They stated that teachers' self-efficacy increases in the first 23 years of teaching then declined. In this study, however, found that the more years teachers teach the more their levels of teaching efficacy increase. There were no limits.

The second factor is, attending in-service training courses in professional development. Most teachers claimed that their teaching knowledge was the result of their pre-service qualification, educational backgrounds, and in-services development such as attending professional development courses.

In this study, teachers, especially beginners, pointed out the importance of professional development courses in improving their teaching skills. They wanted to see more training courses held in the morning and supported by the Ministry of Education. According to Murshidi, Konting, Elias and Fooi (2006) without adequate support, beginner teachers may lack the confidence needed to increase their level of teaching efficacy and their abilities to handle the educational reality. Moreover, teachers in this study expressed their hopes to see more opportunities offered to

them in the scholarship and promotion programs. This was supported by Kersaint, Lewis, Potter and Meisels (2007) as they pointed out the importance of developing programs that can enhance teachers' knowledge to work in the teaching industry and to retain them in their jobs. This preparation process should involve equipping teachers with skills and knowledge that may enable them to teach and deal with different challenges including teaching Mathematics, dealing with students and managing classrooms.

In conclusion, regarding the quantitative results for this dimension, teachers were overall satisfied with their teaching efficacy (TE). In the qualitative data, teachers gave reasons to justify their feelings of satisfaction with teaching efficacy (TE) among these reasons were: holding educational qualifications, and teaching experience.

#### **6.3.10 Quantitative Analysis: Students' Behaviour (SB)**

Table 6.9 below shows teachers' levels of satisfaction in regards to students' behaviour. There are nine items in the table that teachers needed to decide on their level of satisfaction regarding them. The first item is about the degree of flexibility teachers have in setting the standards of behaviour for students within their classroom (SB44). The second item is students' responses to teacher (SB45). The third item is students' concerns with performing well in the assignments (SB46). The fourth item is the degree to which students willingly engage in instructional activities in the classroom (SB47).

The fifth item is the relationship teachers have with students in their

classroom (SB48). The sixth item is the degree of respect and good work habits practiced by students in the classroom (SB49). The seventh item is the extent to which students are motivated to learn (SB50). The eighth item is the degree of satisfaction with students' responsibility and discipline in the classroom (SB51).

The ninth item is the overall level of satisfaction with students' behaviour (SB52). Finally, teachers are asked to provide more explanation to their choice of overall level of satisfaction in regards to students' behaviour (SB53).

Table 6.9

*Teachers' level of Satisfaction with Students' Behaviour (SB)*

N	Items	Not satisfied at all	Not satisfied	Neutral	Satisfied	Very satisfied
SB44	The degree of flexibility you have in setting the standards of behaviour for students within your classroom.	2 (0.9%)	9 (4.3%)	26 (12.2%)	<b>107 (50.2%<sup>5</sup>)</b>	70 (32.4%)
SB45	Student's responses to you as a teacher.	3 (1.4%)	18 (8.4%)	23 (10.7%)	<b>99 (46.3%)</b>	71 (33.2%)
SB46	Your students concerns with performing well in assignments.	9 (4.2%)	43 (20.1%)	34 (15.9%)	97 (45.3%)	31 (14.5%)
SB47	The degree to which students willingly engage in instructional activities in your classroom.	9 (4.2%)	40 (18.7%)	45 (21%)	75 (35%)	45 (21%)
SB48	The relationship you have with students in your classroom.	0	5 (2.3%)	16 (7.5%)	79 (36.9%)	<b>114 (53.3%)</b>
SB49	The degree of respect and good work habits practiced by students in your classroom.	7 (3.3%)	16 (7.5%)	26 (12.1%)	74 (34.6%)	<b>91 (42.5%)</b>
SB50	The extent to which students are motivated to learn.	20 (9.3%)	<b>61 (28.5%)</b>	38 (17.8%)	66 (30.8%)	29 (13.6%)
SB51	The degree of satisfaction with students' responsibility and discipline in your classroom.	10 (4.7%)	24 (11.2%)	29 (13.6%)	92 (43%)	59 (27.6%)
SB52	The overall level of satisfaction with your students' behaviour.	13 (6.1%)	30 (14%)	39 (18.2%)	<b>92 (43%)</b>	<b>40 (18.7%)</b>
53-	Could you please provide more explanation to your choice in item SB52?					

There were 214 teachers who participated in this part of this survey. According to teachers' answers to the overall level SB52, they in general were satisfied with students' behaviour. There were 92 (43%) teachers reported being "satisfied".

As can be seen in Table 6.9, teachers reported high levels of satisfaction to

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<sup>5</sup>the highlighted cells represent the responses with the significant percentage in the table

six items out of nine. However, more than one-quarter, 28.5% of teachers found SB50 to be a “*not satisfied*” item. It is the extent to which students are motivated to learn.

It can be seen in Table 6.9 that out of 214, there were 114 (53.3%) teachers who reported to be “*very satisfied*” with the relationship they have with students in their classroom (item SB48). There were also 91 (42.5%) teachers who reported to be “*very satisfied*” with the degree of respect and good work habits practiced by students in the classroom (item SB49). The table also illustrates that there were 107 (50.2) teachers who were “*satisfied*” with the degree of flexibility they have in setting the standards of behaviour for students within their classroom (item SB44). Moreover, there were 99 (46.8%) teachers who reported to be “*satisfied*” with student's responses to their teachers (item SB45). However, There were 61 (28.5%) teachers reported being “*not satisfied*” with the extent to which students are motivated to learn (item SB50).

Teachers’ levels of satisfaction with students’ behaviour were high according to their choices to the overall levels (itemSB52). It indicates that there were 40 (18.7%) teachers who were “*very satisfied*” and about 92 (43%) teachers who were “*satisfied*”.

### **6.3.11 Qualitative Analysis: Students’ Behaviour**

In this sub-section, teachers' explanations to their responses on the overall satisfaction relating to Students Behaviour (SB) are analysed and presented. SB52 asked teachers to rate their overall satisfaction to SB, and the open-ended question

(item SB53) asked them to explain their response to SB52.

First, I present a table (see Table 6.10) in which I describe the number of teachers and their distribution in relation to their choice of their overall level of job satisfaction for students behaviour. Regarding the open-ended question (item SB53) that follows the quantitative questions, (see Table 6.9), from a total of 214 teachers who participated in this dimension, there were 60(28%) teachers who answered the qualitative question.

Teachers who reported different levels of satisfaction to BS52 about their overall satisfaction with students' behaviour gave their explanation in the open-ended question (item SB53). There were 23 teachers who provided short answers that was too general and fail to give satisfactory answers that could be considered by me and make sense to the reader. The general answers were 12 answers. They were answers such as: "*the teacher must be patient*" and "*the teachers should be wise*". These answers were too general and cannot be coded under any category. There were five answers taken from the Holy Quran and six answers were uttered words such as "*Salam*", "*students*", and "*mathematics*". Moreover, I found that some teachers wrote about more than one issue in one answer (see Table 5.6 Chapter Five) still these answers were coded twice as I under different themes. Therefore, only 37 (61.7%) teachers out of 60 teachers provided relevant answers that could be coded and analysed. The distribution of teachers who provided relevant answers, according to their levels of satisfaction to students' behaviour, can be seen in Table 6.10.

Table 6.10

*Frequency distribution of teachers who gave relevant explanations about their overall satisfaction of students' behaviour*

Dimension	Students' Behaviour (SB)					
Theme 1	The Grading System is unfair					
Responses to SB52	Not satisfied at all	Not satisfied	Natural	Satisfied	Very satisfied	Total
N (%)	5(20%)	10(40%)	0(0%)	8(32%)	2(8%)	25(100%)
Theme 2	Students are at a Critical Age					
Responses to SB52	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	8(33.3%)	11(45.8%)	0(0%)	4(16.7%)	1(4.2%)	24(100%)
Theme 3	Ineffective Implementation of Code of Conduct is required					
Responses to SB52	Not satisfied at all	Not satisfied	Natural	satisfied	Very satisfied	Total
N (%)	4(21.1%)	9(47.4%)	1(5.3%)	2(10.5%)	3(15.8%)	19(100%)

In the qualitative part of this dimension, teachers mentioned some reasons to explain why they were either satisfied or dissatisfied with students' behaviour such as: the grading system is unfair, students are at a critical age, and the ineffective implementation of code of conduct.

#### 6.3.11.1 The Grading System is Unfair

As can be seen in Table 6.10 that out of 37 teachers, there were 25 (67.6%) teachers who mentioned that one reason for students to misbehave and not care about learning Mathematics is the rules of grading. For students to pass, according to the Ministry policy, it is enough to get a total of 28 out of 100. Therefore, students are not motivated to learn and work hard. Moreover, this action has made it easy for students to pass Mathematics with little effort.

As can be seen in Table 6.10, teachers who mentioned about the grading system were distributed between those who were dissatisfied (*not satisfied at all*=20%, *not satisfied*=40%) and satisfied (*satisfied*=32%, *very satisfied*=8%) with

the overall students behaviour (item SB52).

A “*satisfied*” female teacher teaching grade seven in a government school building from the Northern region and who holds a bachelor degree with a Diploma in Education said that:

*“One reason why students do not take mathematics classes seriously is the passing grade for Mathematics. It is only 28 out of 100 and this is easy to achieve”*

" أحد الأسباب التي تجعل الطلبة لا يأخذون مادة الرياضيات بمحمل الجد هو درجة النجاح في المادة . فقط 28 درجة من 100 وهذه الدرجة من السهل الحصول عليها"

A “*not satisfied*” female teacher teaching grade nine in a rented school building from the Southern region and who holds a bachelor degree with a Diploma in Education stated that:

*“To pass Mathematics, students need only 28 out of 100 so they do not pay attention in the classroom because they have guaranteed their success and know for sure that they will pass so why to bother to study hard”*

"درجة النجاح في مادة الرياضيات هي 28 درجة فقط من 100 درجة ولذلك الطالبات غير مهتمات بالحصّة الدراسية ولا يتعبن أنفسهن بالدراسة لإدراكهن بأن تجاوز المادة أصبح سهلاً".

A “*not satisfied at all*” female teacher teaching grade seven in a government school building from the Northern region and who holds a bachelor degree without a Diploma in Education mentioned that:

*“Students these days seem careless about math classes. They miss their classes and are certain that with little effort they will pass. It is only 28 out of 100; not difficult to achieve”*

" طالبات هذه الأيام كسولات و غير مهتمات بدراسة الرياضيات و يتغيبن عن حضور الحصّة ليقينهن بأنه مع القليل من الجهد يستطعن تجاوز المادة. انها فقط 28 درجة من 100 وليس من الصعوبة الحصول عليها".

A “*satisfied*” male teacher teaching grade seven in a government school

building from the Central region and who holds a bachelor degree with a Diploma in Education said that:

*“Students do not respect their teachers. They hate the hard working teacher who works and teaches with care. They want a teacher who is easy going and does not require homework activities to be solved. Most students hold the belief that mathematics has no value in their lives as it is easy to pass the subject. They often question why we should study math”*

" الطلاب لا يحترمون المعلمين و يكرهون المعلم الذي يبذل مجهودا كبيرا في تعليمهم بل و يفضلون المعلم الذي لا يهتم في تحصيلهم العلمي و لا يطلب منهم أي واجبات مدرسية. الكثير من الطلبة يحمل مفهوما خاطئا أن الرياضيات ليس لها قيمة في الحياة و دائما ما يسألون لماذا علينا أن ندرس الرياضيات؟"

A “not satisfied at all” male teacher teaching grade eight in a government school building from the Eastern region and who holds a bachelor degree without a Diploma in Education stated that:

*“It is a must that the grading system should be stricter than the one we are using”*

" يجب ان يكون نظام الدرجات اكثر صعوبة من النظام المعمول به الآن "

A “not satisfied at all” female teacher teaching grade seven in a rented school building from the Southern region and who holds a bachelor degree with a Diploma in Education said that:

*“There are no criteria that may regulate students’ behaviour. Students do not respect their teachers and the teacher carries the blame for students misbehaving. At the same time, students are certain that they are going to pass whether they work hard or not”*

لا توجد معايير تحكم سلوك الطالبات. لا يحترمن المعلمات كما أن مسؤولية سوء سلوكهن تقع على المعلمات. في نفس الوقت الطالبات متأكدات من النجاح سواء اجتهدن ام لا "

A “not satisfied” female teacher teaching grade seven in a rented school

building from the Southern region and who holds a bachelor degree with a Diploma in Education mentioned that:

*“Students’ will not behave in an acceptable manner until the grading system is reformed”*

" لن يتحسن سلوك الطالبات حتى يتغير نظام الدرجات "

Teachers claimed that students misbehave in the classroom is because of the grading system in Mathematics. This grading system is not strict. It allows students to pass with little effort. Therefore, students are careless and do not want to study. They never do homework or pay attention in the classroom. Teachers seemed frustrated in their answers. They are calling for a stricter and fair grading system that would reward those who work hard and pay attention in the classroom.

#### **6.3.11.2 Students are at a Critical Age**

Out of 37 teachers, there were 24 (64.9%) teachers who complained about students’ age being critical. They wrote that students are teenagers and dealing with children at this age is challenging.

As can be seen in Table 6.10, teachers who mentioned about students’ age being critical were distributed between those who were dissatisfied (*not satisfied at all*=33.3%, *not satisfied*=45.8%) and satisfied (*satisfied*=16.7%, *very satisfied*=4.2%) with the overall students behavior (item SB52). Therefore, the dissatisfied teachers who provided explanation about students’ age being critical were more than the satisfied teachers.

A “*satisfied*” male teacher teaching grade nine in a rented school building

from the Southern region and holding a bachelor degree with a Diploma in Education pointed out that:

*“In middle schools, students’ behaviour change as a result of the physical and psychological changes they are going through. This may cause some behavioural problems. I am careful when dealing with them. I want my students to feel safe in the class and enjoy learning”*

" في المرحلة المتوسطة يتغير سلوك الطالبات بناء على نموهم الجسدي و النفسي و هذا قد يتسبب في حدوث بعض المشاكل السلوكية. أحاول دائما أن أتعامل معهم بحرص , أريدهم أن يشعروا بالأمان و يستمتعوا بالتعليم."

A “very satisfied” female teacher teaching grade seven in a rented school from the Southern region and holding a bachelor degree with a Diploma in Education wrote:

*“In middle schools, students are struggling with changes they are going through physically and psychologically, thus their learning is influenced by such changes”*

" في المرحلة المتوسطة الطالبات يعانون من تغيرات نفسية و جسدية تؤثر على تعليمهم "

A “not satisfied” male teacher teaching grade nine in a government school building from the Eastern region and holding a bachelor degree without a Diploma in Education said that:

*“At this age, students are between adulthood and childhood. Thus, students are different in their behaviour and we should understand that”*

" هذا السن يأتي بين مرحلتي الطفولة و المراهقه و لذلك تختلف سلوكيات الطلبة و علينا أن نتفهم ذلك جيدا"

A “not satisfied” female teacher teaching grade eight in a rented school from the Eastern region and who holds a bachelor degree with a Diploma in Education said that:

*“This stage of students’ life (teenage) is very difficult to deal with and makes the teacher feel that she is not teaching very well. I am not satisfied with my efforts. Students are not motivated to learn and their parents are not encouraging them to learn. They want to pass without putting any effort”*

" أجد صعوبة في التعامل مع الطالبات في هذا السن و أشعر أنني غير قادرة على أداء الحصة بطريقة فاعله. أنا لست راضية عن أدائي . الطالبات لا يحملن أي اهتمام اتجاه التعليم و أولياء الأمور لا يشجعونهم على التعلم و كل ما يريدونه هو النجاح بدون بذل أي مجهود".

A “*satisfied*” female teacher teaching grade seven in a rented school building from the Central region and holding a bachelor degree with a Diploma in Education said that:

*“At this age, girls are required to wear hijab. This influences their behaviour and let them feel that they are independent and adults. They start misbehaving with their teachers. We need to understand this age and help them overcome any obstacles”*

" في هذه الفترة العمرية تبدأ الطالبات في ارتداء الحجاب. هذا الأمر يؤثر على سلوكياتهم و يشعروهم بأنهم أصبحوا أكثر نضوجا و استقلالية و يصدر منهم بعض السلوكيات الخاطئة في التعامل مع المعلمات و التي يجب علينا تفهمها و مساعدتهن على تجاوزها ."

This was the only comment that rose attention to girls wearing *hijab* as a hint to a gender differences in students’ behaviour.

A “*not satisfied at all*” male teacher teaching grade eight in a government school from the Western region and holding a bachelor degree with a Diploma in Education mentioned that:

*“Our students are young and we should protect them”*

" طلبتنا صغار في السن و يفترض منا حمايتهم "

A “*satisfied*” male teacher teaching grade seven in a rented school building

from the Northern region and holding a bachelor degree with a Diploma in Education said that:

*“They cannot bear responsibility and are always fighting”*

"لا يستطيعون تحمل المسؤولية ودائما في عراك"

Teachers found their students' behaviour challenging to deal with because of their age. Teachers explained that students are in the age of 13-15 and this is a critical age. Teachers explained that students are growing and moving from being children to teenagers. There are number of changes they are going through. These changes influenced students psychological and physical. Female students started wearing *hijab* and this may affect how they feel and represent themselves. They started to see themselves adults and independent. Teachers stated that such changes made girls not willing to listen to teachers. Teachers found their behaviour in the classroom annoying and difficult to control.

### **6.3.11.3 The Ineffective Implementation of Code of Conduct**

In Middle schools, out of 37 teachers, there were 19 (51.4%) teachers who mentioned that the Ministry of Education has approved a code of conduct. However, this code is not effectively implemented by students and the administrative staff (see Table 6.10). They never implemented this code and students have no idea what the code involves.

As can be seen in Table 6.10, teachers who mentioned about ineffective implementation of code of conduct were distributed between those who were dissatisfied (*not satisfied at all*=21.1%, *not satisfied*=47.4%) and satisfied

(*satisfied*=10.5%, *very satisfied*=15.8%) with the overall students behaviour (item SB52).

A “*not satisfied*” female teacher teaching grade nine in a rented school building from the Eastern region and who holds a bachelor degree with a Diploma in Education said that:

*“I regret to say that my students are lazy and often misbehave in the classroom. This is because the students are not punished and did not learn to obey orders or follow rules”*

" بكل أسف طالباتي كسولات و سلوكهم سيئ داخل الفصل . هذا الأمر يرجع لغياب العقوبات وعدم اتباع الأنظمة".

A “*not satisfied*” female teacher teaching grade eight in a government school building from the Western region and who holds a bachelor degree with a Diploma in Education said that:

*“The code of conduct is weak and not effective enough to change students’ behaviour or their attitude about how to act and deal with their friends and teachers at school”*

" لانحة السلوك ضعيفة و غير مفعلة بما فيه الكفاية لتغيير سلوك الطالبات و طريقة تعاملهن مع زميلاتهن ومعلماتهن في المدرسة "

A “*satisfied*” male teacher teaching grade eight in a rented school building from the Eastern region and who holds a bachelor degree without a Diploma in Education said that:

*“I hope that the code of conduct will be effectively implemented so students will understand what are their rights and responsibilities. When I complained about students’ misbehaviour to the headmaster, he accused me of being weak and have no ability to control students’ actions inside the classroom.*

"أتمنى تفعيل لائحة السلوك ليعرف الطلبة حقوقهم وواجباتهم. عندما أشتكي من سلوك الطلبة السيء لمدير المدرسة يحملني المسؤولية و يعتبرني غير قادر على كبح سلوكيات الطلبة داخل الفصل".

A "not satisfied at all" female teacher teaching grade eight in a government school building from the Central region and who holds a bachelor degree with a Diploma in Education said that:

*"The code of conduct is not effectively implemented so each teacher follows her own ways of dealing with students. This is either by beating or cutting marks"*

"لائحة السلوك غير مفعلة في المدرسة و لذلك كل معلمة تتبع طرقها الخاصة في التعامل مع سلوك الطالبات سواء بالضرب أو خصم الدرجات".

In Saudi Arabia the Ministry of Education warns teachers from beating students. There were few incidents in Jeddah where few teachers beaten students and the Ministry was against such actions. (see <http://www.arabnews.com/saudi-arabia/news/835266>).

A "satisfied" male teacher teaching grade eight in a rented school building from the Eastern region and who holds a bachelor degree without a Diploma in Education stated:

*"Students are not listening to my advice and refuse to follow class instructions regarding behaving well in the classroom. They know that there are no consequences to their actions"*

"الطلاب لا يستمعون لنصائحي و يرفضون اتباع الأنظمة داخل الفصل. انهم يعلمون جيدا أنه لا يوجد أي عقوبات رادعه اتجاه سلوكياتهم الخاطئة"

A "not satisfied at all" female teacher teaching grade seven in a rented school building from the Southern region and who holds a bachelor degree with a

Diploma in Education said that:

*“There are no criteria that may regulate students’ behaviour. Students do not respect their teachers and the teacher carries the blame for students misbehaving. At the same time, students are certain that they are going to pass whether they work hard or not”*

لا توجد معايير تحكم سلوك الطالبات. لا يحترمن المعلمات كما أن مسؤولية سوء سلوكهن تقع على المعلمات. في نفس الوقت الطالبات متأكدات من النجاح سواء اجتهدن ام لا "

A “not satisfied” male teacher teaching grade seven in a government school building from the Central region and who holds a bachelor degree without a Diploma in Education said that:

*“Students are not the problem. The problem is in the system that does not impose any regulations that determine student-teacher relationship in the classroom”*

" المشكلة ليست في الطلبة ولكن في غياب الأنظمة والقواعد التي تحدد سلوكيات التعامل بين الطالب والمعلم في الفصل الدراسي "

The code of conduct that may regulate teachers and student relationship is required by teachers. They claimed that the code of conduct is not effectively implemented inside schools. This had led students to misbehave. They never listened to their teachers advices and knew that there are no consequences to their actions. Teachers claimed that they were often blamed for their students’ misbehavior at school. Teachers wish to effectively implement the code of conduct.

### **6.3.12 Discussion of the Students’ Behaviour Dimension**

The quantitative data revealed that teachers were satisfied with student's’ behaviour. There were 40 (18.7%) teachers who were “very satisfied” and 92 (43%) teachers were “satisfied”.

In the qualitative data, teachers found that students' behaviour had an impact on their levels of satisfaction. This was in agreement with the findings of the literature reviewed in this thesis. Research studies pointed out students' poor behaviour as a factor that may increase teachers' feeling of dissatisfaction with their teaching career. In support of this claim, Veldman, Tartwijk, Brekelmans, and Wubbels (2013) stated that lack of support and poor teacher-student relationships may affect teachers and are also associated with teachers' level of job dissatisfaction. Moreover, Dinham and Scott (1998) argue that the main sources of teacher dissatisfaction are schools working conditions, the task of teaching children, and lack of support services for teachers. Supporting this view was Ingersoll (2001) who mentioned that the students and their discipline problems, all contribute to teachers' job dissatisfaction. Norton and Kelly (1997) who identified students' manners as a factor that may lead to increased teachers' dissatisfaction. In addition, students' behaviour may lead to increased teacher pressure and stress. Teachers in this study were struggling to deal with students in the classroom and found their behavior challenging. This was also found by Ferguson, Frost and Hall (2012) who identified these as the most important occupational pressures that increased teacher's anxiety and depression and the reasons that may lead to teachers' job dissatisfaction. They noted that workload and student behavior were the most common reasons attributed to dissatisfaction in their jobs. In addition, Al-Mohannadi and Capel (2007) found that students' behavior was among the causes of stress in teachers.

Teachers were "not satisfied" with the extent to which students are motivated to learn (item SB50). Teachers provided explanations to their choices to the overall SB51 in the qualitative answers to question SB53. However, these

answers seemed to be linked to why teachers think that students were not motivated to learn. This was the link between teachers answers to SB53 (the open-ended question) and them reporting being “not satisfied” with SB50 which is the extent to which students are motivated to learn. They revealed that students misbehaved because of three main reasons.

First, teachers believe that the grading system is unfair. They stated that students need only 28 out of 100 to succeed. Therefore, this fact has influenced how they behave in the classroom and their attitude towards Mathematics. Students do not pay careful attention in the classroom. They also know that even with little effort they will pass. They pay no respect to their teachers and rarely does it seem they listen to their advice and directions. This careless feeling towards Mathematics has also influenced students’ attitudes towards Mathematics. Teachers pointed out that students were questioning the usefulness of learning Mathematics (Shen & Tam, 2008). Their results suggest that students in the top countries which achieved high scores in Mathematics such as Japan, Korea, Hong Kong, and China have more positive attitudes towards Mathematics. On the contrary, countries which were located at the lower end of the Mathematics achievement scale, students’ have higher levels of negative attitudes towards Mathematics. Shen and Tam (2008) explained that high academic standards lead students to work harder and achieve high scores in Mathematics. Countries such as Morocco and Ghana where Mathematics standards are very low means that students are not required to work hard to achieve success. It is enough to do little and pass Mathematics, but students still have low achievement.

Second, is their age, students in Middle schools are between the ages of 13-15. They revealed that students at this age are moving from being children to teenagers. Thus, they go through different psychological and physical changes. These changes may influence the way they behave and act at school with friends and teachers which is again reflected in the research about adolescent behaviour.

The third point was the ineffective implementation of the school system's code of conduct. The code of conduct is not implemented and not acknowledged by schools in general. Teachers believe that if the code of conduct was implemented, students would know their duties and behave in an acceptable way. They also will show respect to their teachers (Shin, Lee & Kim, 2009). Shin, Lee and Kim's results affirmed that school disciplinary climate was an essential predictor of Mathematics performance. Their study found that school with strong academic traditions and strict regulations experienced the lowest level of behavioural and educational problems and put the entire focus on the educational development which reflected positively on the students' achievement. Schools that lack the discipline have less ability to enforce the educational aspect among students and make the school ineligible environment to achieve its goals in the end of the year. Thus, the absence of discipline as stated by teachers in this study, the inability to apply the accepted code of conduct, has led students to believe that their behaviour and actions have no consequences. In the case of this study, teachers then believe they carry the blame for students' misbehavior.

In conclusion, regarding the quantitative results for this dimension, teachers were overall "satisfied" with students' behaviour (SB). Teachers were dissatisfied

with SB50 which is the extent to which students are motivated to learn. In the qualitative data, teachers gave reasons to justify their feelings of dissatisfaction with students' behaviour (SB). However, some teachers linked their responses to students' motivation to learn. Among these reasons were: the grading system is unfair, students are at a critical age, and the ineffective implementation of the code of conduct.

#### **6.4 Results and Discussion of the Third Question: Teachers' Levels of Satisfaction with Dimensions of Job Satisfaction by Socio-Demographic Factors**

The results in this section answer question three which was: 3- Do socio-demographic factors (gender, classroom level the teachers teach, teaching experience, school building type (government or 'rented'), school location, teacher's highest degree achieved, choosing to be a Mathematics teacher, view of own effectiveness, time spent on teaching Mathematics, and Mathematics courses attended) affect teachers' levels of job satisfaction in terms of the four dimensions identified?

In this section, I present the quantitative results that explain the relationship between teachers' socio-demographic factors (gender, classroom level the teachers teach, teaching experience, school building type (government or 'rented'), school location, teacher's highest degree achieved, choosing to be a Mathematics teacher, view of own effectiveness, time spent on teaching Mathematics, and Mathematics courses attended) and their levels of satisfaction in terms of the four dimensions of job satisfaction as identified by the literature review. These dimensions were: administrative support, workplace atmosphere, teaching efficacy, and students' behaviour. I used inferential statistical analysis to analyse the data. I used *Mean*

scores and Standard Deviation to explain the relationship between the four dimensions of job satisfaction and socio-demographic factors. The Mean scores were calculated for all the items in the dimension. The results account is followed by a discussion of the findings.

#### 6.4.1 Gender

Table 6.11

*Mean and Standard Deviation for dimensions of job satisfaction by gender*

Dimensions	Gender	Number of participants	Mean	SD	Test statistic*	p-Value
Administrative support	Male	126	3.81	.97	$U$ =568	0.08
	Female	104	3.63	.92		
Workplace atmosphere	Male	126	3.34	.81	$U$ =508	0.003
	Female	104	3.07	.69		
Teaching efficacy	Male	123	3.91	.66	$t(224)$ =-0.281	0.77
	Female	102	3.93	.56		
Student's behaviour	Male	120	3.87	.75	$t(211)$ =2.003	0.05
	female	94	3.65	.88		

\* Test statistics  $U$  and  $t$  are used for Mann-Whitney  $U$  test and  $t$ -test respectively.  $P$ -value ( $\leq 0.05$ ) indicates significant differences between male and female teachers.

Table 6.11 shows a comparison of the four dimensions of job satisfaction between male and female teachers. Mann-Whitney  $U$  tests were conducted to compare gender differences with respect to administrative support and workplace atmosphere dimensions, and  $t$ -tests were conducted for the teaching efficacy and student behaviour dimensions. It can be seen in Table 6.11 that there are statistically significant differences in job satisfaction for workplace atmosphere ( $U=508$ ,  $p=0.003$ ) and students' behaviour ( $t(211)=2.003$ ,  $p=0.05$ ) for gender.

Regarding workplace atmosphere, male teachers ( $M=3.34$ ,  $SD=0.81$ ) were more satisfied than female teachers ( $M=3.07$ ,  $SD=0.69$ ). With respect to students'

behaviour, male teachers ( $M=3.87$ ,  $SD=0.75$ ) were again more satisfied than female teachers ( $M=3.65$ ,  $SD=0.88$ ).

The findings support Bishy's (1996) study conducted in the U.S.A. He found that women are less satisfied with teaching than men. The study also pointed out that women found activities such as preparation, paper marking and paperwork challenging and difficult to manage. In this study, some female teachers found activities such as school activities (extra-curricular) and students' behaviour in the classroom dissatisfactory. The results of this study were inconsistent with Bolger's (2005) Israeli study. His study found that female teachers were more satisfied with working conditions than male teachers. Female teachers were satisfied with all dimensions of their jobs such as self-fulfillment, internal conditions and their physical conditions. In the case of this study, female teachers were dissatisfied with their internal and physical conditions. They complained about their rights to have a six months maternity leave with full payment and the right to have a cheap means of transportations. This was mentioned by teachers later on in question four analysis.

### 6.4.2 Teaching Grades

Table 6.12

*Mean and Standard Deviation for dimensions of satisfaction by teaching grade*

Dimensions	Grade level	Number of participant	Mean	SD	Type of test	p
Administrative support	Grade 7	67	3.81	0.92	$H(2)$ =1.144	0.56
	Grade 8	64	3.64	0.94		
	Grade 9	99	3.73	0.98		
Workplace atmosphere	Grade 7	67	3.36	0.76	$F(2,227)$ =1.727	0.18
	Grade 8	64	3.12	0.71		
	Grade 9	99	3.18	0.81		
Teaching efficacy	Grade 7	67	4.00	0.56	$H(2)$ =1.325	0.52
	Grade 8	62	3.84	0.64		
	Grade 9	96	3.91	0.64		
Student's behaviour	<b>Grade 7</b>	<b>66</b>	<b>3.96</b>	<b>0.78</b>	$H(2)$ =6.055	<b>0.05</b>
	<b>Grade 8</b>	<b>59</b>	<b>3.60</b>	<b>0.88</b>		
	<b>Grade 9</b>	<b>89</b>	<b>3.75</b>	<b>0.78</b>		

\*Test statistics  $H$  and  $F$  are used for Kruskal-Wallis test and ANOVA test respectively.

$P\text{-value} \leq (0.05)$ .

Table 6.12 shows a comparison of the four dimensions of job satisfaction by teaching grade. *Kruskal-Wallis* tests were conducted to compare grade differences in the administrative support, teaching efficacy and students' behaviour dimensions, and *ANOVA* tests were conducted for the workplace atmosphere aspect. It can be seen in Table 6.12 that there are statistically significant differences in job satisfaction for students' behaviour ( $H(2) = 6.055$ ,  $p = 0.05$ ) for those teachers teaching different grade levels. Teachers who teach in grade 7 had the highest level of satisfied with with student's behaviour ( $M=3.96$ ;  $SD=0.78$ ).

*Kruskal-Wallis* test indicated that there are statistically significant differences in job satisfaction for students' behaviour. However, *Dunn-Bonferroni post hoc method* which followed *Kruskal-Wallis* test (see table 6.13) showed that the group of teachers' teaching grade 7 have no statistically significant difference in their

average score as compared to the average scores from the other groups of teachers teaching grades 8 and 9 ( $p = 0.056$ ), ( $p = 0.194$ ).

Teachers teaching grade 7 were the highest in levels of satisfaction with students' behaviour. Grade 7 is the first grade after Primary school. It may be that students at this grade are still discovering and adapting to the new learning grade. They maybe still quite and trying to adjust with the new environment. This is a gap that requires future studies by researchers in the field.

Table 6.13

*the pairwise comparisons of teachers' teaching grades by students' behavior*

**Pairwise Comparisons of Teachers' teaching grade**



Each node shows the sample average rank of Teachers' teaching grade.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Grade 8-Grade 9	-7.472	10.335	-.723	.470	1.000
Grade 8-Grade 7	26.037	11.069	2.352	.019	.056
Grade 9-Grade 7	18.565	10.044	1.848	.065	.194

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

### 6.4.3 Teaching Experience

Table 6.14

*Mean and Standard Deviation for aspects of satisfaction by teaching experience*

Dimensions	Teaching experience	Number of participant	Mean	SD	Type of test	p
Administrative support	1-5 years	28	3.45	0.95	$H(3)=16.215$	0.001
	6 to 10 years	59	3.45	1.06		
	11 to 15 years	34	3.58	0.93		
	More than 15 years	109	3.99	0.82		
Workplace atmosphere	1-5 years	28	3.30	0.82	$F(3,226)=1.064$	0.37
	6 to 10 years	59	3.20	0.79		
	11 to 15 years	34	3.01	0.79		
	More than 15 years	109	3.26	0.73		
Teaching efficacy	1-5 years	26	3.86	0.59	$H(3)=7.958$	0.047
	6 to 10 years	58	3.77	0.63		
	11 to 15 years	34	3.86	0.74		
	More than 15 years	107	4.03	0.55		
Student's behaviour	1-5 years	24	3.78	0.92	$H(3)=8.302$	0.04
	6 to 10 years	57	3.62	0.82		
	11 to 15 years	34	3.51	0.97		
	More than 15 years	99	3.94	0.69		

\*Test statistics  $H$  and  $F$  are used for Kruskal- Wallis test and ANOVA test respectively.  $P$ -value  $\leq (0.05)$

Table 6.14 shows a comparison of the four dimensions of job satisfaction by teaching experience. *Kruskal-Wallis* tests were conducted to compare levels of satisfaction by teaching experience in terms of administrative support, teaching efficacy, and students' behaviour dimensions, and *ANOVA* tests were conducted for the workplace dimensions. It can be seen in Table 6.14 that there are statistically significant differences in job satisfaction for administrative support ( $H(3) = 16.215$ ,  $p = 0.001$ ), teaching efficacy ( $H(3) = 7.958$ ,  $p = 0.047$ ), and students' behaviour ( $H(3) = 8.302$ ,  $p = 0.04$ ) for teachers with different numbers of years of teaching experience.

Regarding these three aspects, Table 6.14 illustrates that teachers who have teaching experience of more than 15 years have the highest level of satisfaction with administrative support ( $M=3.99$ ;  $SD=0.82$ ). The *Dunn test for pairwise comparison* (see table 6.15) showed that, for administrative support, the group of teachers who have more than 15 years of teaching experience have statistically significant difference between the average scores as compared to the average scores from the group of teachers with 6-10 years of experience ( $p= 0.005$ ).

Also, teachers with more than 15 years of teaching experience expressed high levels of teaching efficacy ( $M=4.03$ ;  $SD=0.55$ ). The *Dunn test for pairwise comparison* (see table 6.16) indicated that, for teaching efficacy, the group of teachers who have more than 15 years of teaching experience have a statistically significant difference between the average scores as compared to the average score from the group of teachers with 6-10 years of teaching experience ( $p = 0.041$ ).

Finally, teachers who have more than 15 years of experience have the highest level of job satisfaction with students' behaviour ( $M= 3.94$ ;  $SD=0.69$ ). The *Dunn test for pairwise comparison* (see table 6.17) showed that the group of teachers who have more than 15 years of teaching experience have no statistically significant difference between the average scores as compared to the average scores from other groups of teaching experiences in relation to students' behaviour.

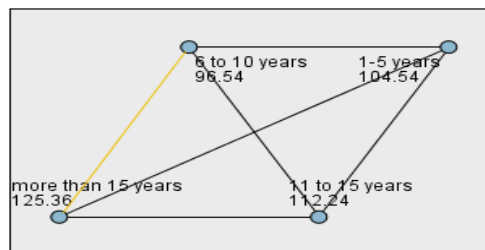
The findings of this study correspond with Chhinh and Tabata (2003) in Cambodia. They found that teachers who have been in the teaching job for a longer period of time have gained significant experience in teaching and how to deal with

students. Teachers become more effective when they have longer experience; hence, experienced teachers are more effective than inexperienced teachers working with students (Chhinh & Tabata, 2003).

Table 6.15

*The pairwise comparisons of teaching experiences by Administrative support*

**Pairwise Comparisons of Teaching experience**



Each node shows the sample average rank of Teaching experience .

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
<b>6 to 10 years-1-5 years</b>	7.994	15.214	.525	.599	1.000
<b>6 to 10 years-11 to 15 years</b>	-15.692	14.105	-1.113	.266	1.000
<b>6 to 10 years-more than 15 years</b>	-28.812	10.648	-2.706	.007	.041
<b>1-5 years-11 to 15 years</b>	-7.698	16.834	-.457	.647	1.000
<b>1-5 years-more than 15 years</b>	-20.818	14.064	-1.480	.139	.833
<b>11 to 15 years-more than 15 years</b>	-13.120	12.856	-1.020	.307	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Table 6.16

*The pairwise comparisons of teaching experiences by teaching efficacy*

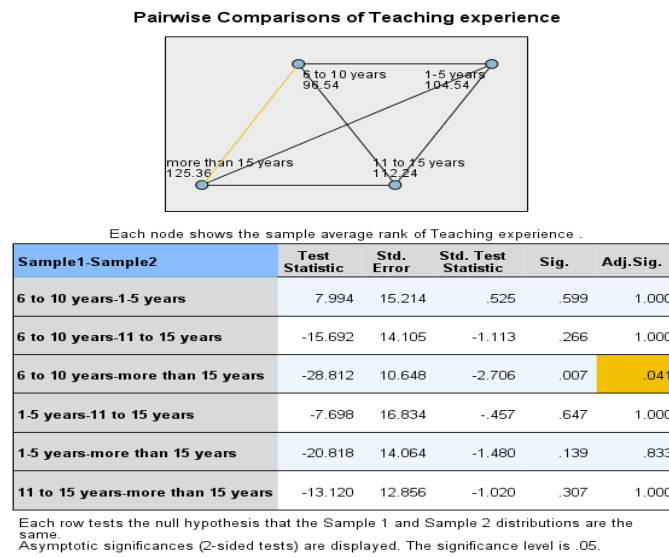
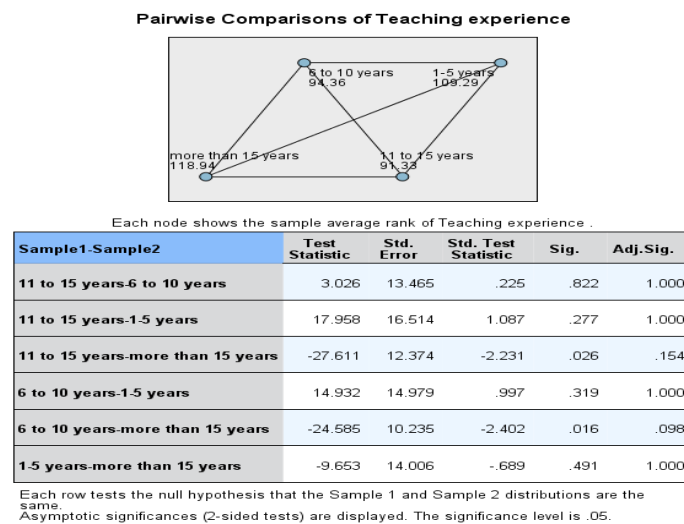


Table 6.17

*The pairwise comparisons of teaching experiences by Students' behaviour*



#### 6.4.4 School Building Type

Table 6.18

*Mean and Standard Deviation for dimensions of satisfaction by school building type*

Dimensions	Building Type	Number of participants	Mean	SD	Type of test	p
Administrative support	Rented school buildings	100	3.66	0.98	<i>U</i> =6040.500	0.36
	Government school buildings	130	3.78	0.93		
Workplace atmosphere	<b>Rented school buildings</b>	<b>100</b>	<b>3.04</b>	<b>0.73</b>	<b><i>U</i></b> <b>=4835.0</b>	<b>0.001</b>
	<b>Government school buildings</b>	<b>130</b>	<b>3.35</b>	<b>0.77</b>		
Teaching efficacy	Rented school buildings	100	3.87	0.64	<i>T</i> (224) =-1.154	0.25
	Government school buildings	125	3.96	0.59		
Students behaviour	<b>Rented school buildings</b>	<b>97</b>	<b>3.63</b>	<b>0.86</b>	<b><i>U</i></b> <b>=4679.500</b>	<b>0.03</b>
	<b>Government school buildings</b>	<b>117</b>	<b>3.87</b>	<b>0.75</b>		

\* Test statistics *U* and *t* are used for Mann-Whitney *U* test and *t*-test respectively-value ( $\leq 0.05$ )

Table 6.18 shows a comparison of the four dimensions of job satisfaction by school building type. *Mann-Whitney U* tests were conducted to compare levels of satisfaction by school type for the administrative support, workplace atmosphere, and students' behaviour dimensions and *t*-tests were conducted for the teaching efficacy dimension. It can be seen in Table 6.18 that there are statistically significant differences in job satisfaction for workplace atmosphere ( $U=4835.0$ ,  $p= 0.001$ ) and students' behaviour ( $U=4679.500$ ,  $p = 0.03$ ) for teachers teaching in different school building types.

Regarding workplace atmosphere, teachers in government school buildings were more satisfied with workplace atmosphere than those who taught in rented school buildings ( $M= 3.35$ ;  $SD=.77$ ). Regarding students' behaviour, teachers in government school buildings were more satisfied with students' behaviour than those who taught in rented school buildings ( $M=3.87$ ;  $SD=0.75$ ).

These results were not surprising as teachers working in government schools find it more convenient than those in rented schools in terms of resources and building facilities. These schools are equipped with large classrooms, labs, libraries, and teaching materials. In the qualitative data in section (6.3.5.1) teachers complained about the conditions of rented schools. They mentioned issues such as the level of cleanness and safety. They also stated that schools are closed and students have no outdoors space to do activities.

In government schools, students are distributed equally in classrooms. Therefore, teachers are able to better manage students' behaviour. The school atmosphere, in general, is positive and this reflects on teachers' levels of satisfaction. These results are in agreement with those found by Sargent and Hannum (2005) in China. They found that teachers are satisfied in schools with high economic status that provide all teaching and learning facilities.

### 6.4.5 School Location

Table 6.19

*Mean and Standard Deviation for dimensions of satisfaction by school location*

Dimensions	School location	Numbers of participants	Mean	SD	Type of test	p
Administrative support	Eastern region	64	3.87	1.03	$H(3)$ $=5.543$	0.07
	Northern region	51	3.63	0.90		
	Southern region	65	3.59	0.83		
	Central region	42	3.72	1.04		
Workplace atmosphere	Eastern region	64	3.23	0.85	$F(3,218)$ $=2.195$	0.09
	Northern region	51	3.04	0.72		
	Southern region	65	3.14	0.60		
	Central region	42	3.42	0.81		
Teaching efficacy	Eastern region	63	3.97	0.65	$F(3,214)$ $=.596$	0.61
	Northern region	50	3.87	0.49		
	Southern region	63	3.86	0.61		
	Central region	41	3.98	0.65		
Students behaviour	Eastern region	62	3.87	0.77	$F(3,202)$ $=2.524$	0.06
	Northern region	48	3.79	0.76		
	Southern region	58	3.53	0.88		
	Central region	39	3.92	0.75		

\*Test statistics  $H$  and  $F$  are used for Kruskal- Wallis test and ANOVA test respectively  $P$ -value  $\leq (0.05)$

Table 6.19 shows a comparison of the four dimensions of job satisfaction by school location. *Kruskal-Wallis* tests were conducted to compare levels of satisfaction by school location for the administrative support dimension. One way *ANOVA* tests were conducted to compare levels of satisfaction by school location in terms of workplace atmosphere, teaching efficacy, and students' behaviour dimensions. It can be seen in Table 6.19 that there are no statistically significant differences in job satisfaction for all four dimensions.

## 6.4.6 Teachers' Teaching Degree

Table 6.20

*Mean and Standard Deviation for dimensions of satisfaction by teacher's highest degree*

Dimensions	High degree earned	Numbers of participants	Mean	SD	Type of test	p
Administrative support	Bachelor + Diploma in Edu	191	3.71	0.96	<i>U</i> =.3141	0.57
	Bachelor - Diploma in Edu	35	3.84	0.82		
Workplace atmosphere	Bachelor + Diploma in Edu	191	3.18	0.75	<i>T</i> (224) =-1.576	0.18
	Bachelor - Diploma in Edu	35	3.39	0.76		
Teaching efficacy	Bachelor + Diploma in Edu	186	3.90	0.85	<i>T</i> (220) =-1.623	0.11
	Bachelor - Diploma in Edu	35	4.08	0.63		
Student's behaviour	<b>Bachelor + Diploma in Edu</b>	<b>177</b>	<b>3.71</b>	<b>0.79</b>	<i>U</i> =1998.5	<b>0.004</b>
	<b>Bachelor - Diploma in Edu</b>	<b>33</b>	<b>4.10</b>	<b>0.75</b>		

\* Test statistics *U* and *t* are used for Mann-Whitney *U* test and *t*-test respectively *P*-value ( $\leq 0.05$ ).

Table 6.20 shows a comparison of the four dimensions of job satisfaction by teachers' highest degree. *Kruskal-Wallis* tests were conducted to compare levels of satisfaction by teachers' highest degree for the administrative support and students' behaviour dimensions and one way *ANOVA* tests were conducted for the workplace atmosphere and teaching efficacy dimensions. It can be seen in Table 6.20 that there are statistically significant differences in job satisfaction for students' behaviour ( $U=1998.5$ ,  $p = 0.004$ ) for teachers with the highest degrees.

Regarding students' behaviour, teachers who hold a bachelor degree without a Diploma in Education were more satisfied with their students' behaviour than other groups ( $M= 4.10$ ;  $SD=0.75$ ).

This significant finding is consistence with what Akiri and Ugborugbo (2009) who reported that teachers holding higher degrees were not satisfied with their teaching career. They felt that there was a vast difference between their education

level and expectations and work realities.

The results of this study were also in agreement with the findings of Caprara, Barbaranell, Stwca and Malone (2006). They found that teachers with high levels of teaching efficacy, just like the group of teachers in this study, were able to cope with various situations in terms of dealing with students' behaviour. It also agrees with Bandura's (1993) research; individuals with high levels of self-efficacy can overcome different types of challenges. Students' behaviour and dealing with them is a challenge. However, the findings leave us with the question of why teachers with a Diploma in Education were less satisfied with their teaching efficacy than teachers without a Diploma in Education. It is assumed that teachers with a Diploma of Education have the knowledge to deal with students and teach Mathematics in an effective way. This may be relevant for more investigation in the future.

### 6.4.7 Choosing to Teach Mathematics

Table 6.21

*Mean and Standard Deviation for dimensions of satisfaction by choosing to teach Math*

Dimensions	choosing to teach Math	Numbers of participant	Mean	SD	Type of test	p
Administrative support	Definitely no	104	3.60	1.01	$H(1)$ =.999	0.32
	Not sure	43	3.74	.84		
	Definitely yes	83	3.86	.92		
Workplace atmosphere	Definitely no	104	3.11	.70	$H(1)$ =.000	0.99
	Not sure	43	3.30	.68		
	Definitely yes	83	3.28	.87		
Teaching efficacy	Definitely no	104	3.85	.62	$F(2,223)$ =3.605	0.03
	Not sure	41	3.80	.60		
	Definitely yes	80	4.06	.60		
Students behaviour	Definitely no	101	3.63	.86	$H(1)$ =8.248	0.004
	Not sure	39	3.62	.82		
	Definitely yes	74	4.05	.67		

\* Test statistics  $H$  and  $F$  are used for Kruskal- Wallis test and ANOVA test respectively-value  $\leq (0.05)$

Table 6.21 shows a comparison of the four dimensions of job satisfaction by teachers' choice to teach Mathematics. *Kruskal-Wallis* tests were conducted to compare levels of satisfaction by teachers' choice to teach Mathematics for the administrative support, workplace atmosphere, and students' behaviour dimensions and one way *ANOVA* tests were conducted for the teaching efficacy dimension. It can be seen in Table 6.21 that there are statistically significant differences in job satisfaction for teaching efficacy ( $F(2,223) = 3.605, p = 0.03$ ) and students' behaviour ( $H(1) = 8.248, p = 0.004$ ) for teachers' choice to teach Mathematics.

Regarding teaching efficacy, teachers who chose "Definitely yes" had the highest level of satisfaction with their teaching efficacy than other teachers ( $M = 4.06$ ;  $SD = 0.60$ ). *Tukey post hoc pairwise test comparison* in Table 6.22 shows that there are no significant differences in average scores from the other groups of teachers who

chose to teach Mathematics.

Regarding students' behaviour, teachers who chose "*Definitely yes*" had the highest level of satisfaction with their students' behaviour than other participating teachers ( $M=4.05$ ;  $SD= .67$ ). Using *Dunn test for pairwise comparison* (see Table 6.23), the group of teachers who chose "*Not sure*" have a statistically significant difference in the average score as compared to the average score from the group of teachers who chose "*Definitely yes*" ( $p= 0.013$ ). Moreover, the group of teachers who chose "*Definitely no*" have a statistically significant difference in the average score as compared to the average score from the group of teachers who chose "*Definitely yes*" ( $p= 0.003$ ) for students' behaviour.

These results highlight the importance of motivation that may affect teachers' levels of satisfaction with their teaching career. These results also support the findings of Watt and Richardson (2006; 2012) in Australia. They found that teachers choose teaching because of their teaching abilities, beliefs, personal and social values, and positive experience in teaching. These elements influence how teachers teach and work with students. Teachers who believed that teaching Mathematics would still be their career choice have high levels of satisfaction with their teaching efficacy.

Table 6.22

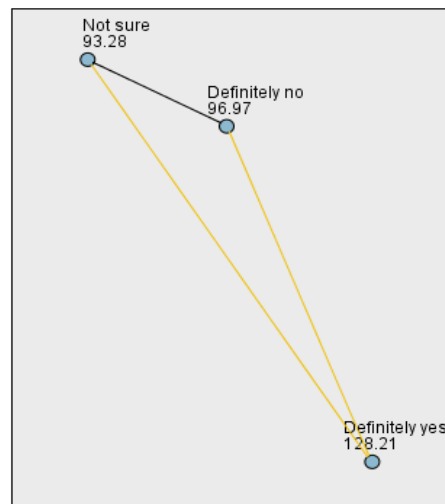
*The pairwise comparisons of choosing to teach Math by teaching efficacy*

(I) Choosing to teach Math	(J) Choosing to teach Math	Mean Difference (I-J)	p-value
Definitely no	Not sure	.04906	.900
	Definitely yes	-.21004	.054
Not sure	Definitely no	-.04906	.900
	Definitely yes	-.25910	.070
Definitely yes	Definitely no	.21004	.054
	Not sure	.25910	.070

Table 6.23

The pairwise comparisons of choosing to teach Mathematics by students' behaviour

Pairwise Comparisons of Math Teaching



Each node shows the sample average rank of Math Teaching.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Not sure-Definitely no	3.688	11.605	.318	.751	1.000
Not sure-Definitely yes	-34.923	12.209	-2.860	.004	.013
Definitely no-Definitely yes	-31.235	9.457	-3.303	.001	.003

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

## 6.4.8 Time Spent in Teaching

Table 6.24

*Mean and Standard Deviation for dimensions of satisfaction by time spent in teaching*

Dimensions	Time spent in teaching	Numbers of participant	Mean	SD	Type of test	p
Administration support	A bit less	31	3.61	1.04	$H(3)$ =15.551	0.001
	Exact time	93	3.89	0.92		
	A bit more	74	3.83	0.79		
	A lot more	25	3.10	0.91		
Workplace atmosphere	A bit less	31	3.24	0.83	$F(3,219)$ =4.098	0.0007
	Exact time	93	3.36	0.72		
	A bit more	74	3.21	0.70		
	A lot more	25	2.79	0.62		
Teaching efficacy	A bit less	31	3.79	0.73	$H(3)$ =3.073	0.381
	exact time	89	4.02	0.51		
	A bit more	74	3.91	0.61		
	A lot more	24	3.83	0.64		
Students behaviour	A bit less	30	3.69	1.02	$F(3,202)$ =3.651	0.013
	exact time	82	3.82	0.76		
	A bit more	72	3.93	0.66		
	A lot more	23	3.33	0.82		

\*Test statistics  $H$  and  $F$  are used for Kruskal- Wallis test and ANOVA test respectively.  
 $P\text{-value} \leq (0.05)$

Table 6.24 shows a comparison of the four dimensions of job satisfaction by time spent teaching Mathematics. *Kruskal-Wallis* tests were conducted to compare levels of satisfaction by time spent in teaching Mathematics for the administrative support and teaching efficacy dimensions and one way *ANOVA* tests were conducted for the workplace atmosphere and students' behaviour dimensions.

It can be seen in Table 6.24 that there are statistically significant differences in job satisfaction for administrative support ( $H(3) = 15.551$ ,  $p = 0.001$ ), workplace atmosphere ( $F(3,219) = 4.098$ ,  $p = 0.0007$ ) and students' behaviour ( $F(3,202) = 3.651$ ,  $p = 0.013$ ) for time spent in teaching Mathematics.

Regarding administrative support, teachers who spent the “*Exact time*” were more satisfied with administrative support than others ( $M=3.89$ ;  $SD=.92$ ). *Dunn post-test* showed that (see table 6.25) teachers who spent “*A lot more time*” have a statistically significant difference in the average score as compared to the average score for teachers who spent “*A bit more*” ( $p= 0.007$ ). Moreover, teachers who spent “*A lot more time*” have a statistically significant difference in the average score as compared to the average score for teachers who spent the “*Exact time*” ( $p= 0.001$ ) for administrative support.

Regarding workplace atmosphere, teachers who spent the “*Exact time*” were more satisfied with workplace atmosphere than others ( $M= 3.36$ ;  $SD=.72$ ). *Tukey post hoc pairwise* test (see Table 2.26) showed that the group of teachers who chose the “*Exact time*” have statistically significant differences in their average scores as compared to the average scores for the group of teachers who chose “*A lot more*” ( $p= 0.003$ ) for workplace atmosphere.

Finally, in terms of students behaviour, teachers who spent “*A bit more time*” were more satisfied with students behaviour ( $M=3.93$ ;  $SD=0.66$ ). *Tukey post hoc pairwise* test (see Table 6.27) showed that the group of teachers who chose “*A bit more time*” have a statistically significant difference in their average scores as compared to the average score for the group of teachers who chose “*A lot more time*” ( $p= 0.008$ ) for students behaviour. Moreover, teachers who spent the “*Exact time*” have a statistically significant difference in the average score as compared to the average score from teachers who spent “*A lot more time*” ( $p= 0.044$ ) for students behaviour.

The time of teaching here refers to the 45 minutes assigned by the Ministry of Education (see Chapter Two) to teachers to teach Mathematics in each period. Teachers who teach “*A lot more*” ( $M=3.10$ ;  $SD=0.091$ ) were the least in levels of satisfaction with administrative support. In the qualitative part that answers the second research question of this study, in section (6.3.2.1), teachers provided explanations to how they found the time of teaching insufficient to complete the textbook. They mentioned that school activities (extra-curricular activities) assigned by the administrative staff were a pressure. They were struggling to finish the curriculum on time. This might mean that they spend more time than 45 minutes in the classroom to finish the textbook and make up for the time spent on school activities.

Regarding workplace atmosphere, teachers who teach “*A lot more*” ( $M= 2.79$ ;  $SD=0.62$ ) were the least in level of satisfaction with workplace atmosphere. Teachers gave explanation in the qualitative part that answers the second research question. These answers maybe linked to these results. They were complaining about the high population number of students in the classroom. This hindered their teaching practices when it comes to implementing group work activities suggested in the textbook. They also were complaining about the insufficient availability of teaching resources that could make learning accessible to students.

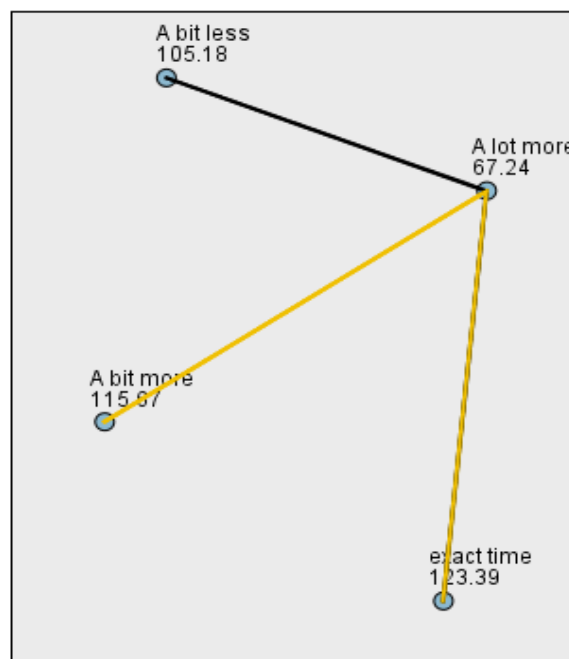
Finally, teachers who teach “*A lot more*” ( $M=3.33$ ;  $SD=0.82$ ) were the least in levels of satisfaction with students’ behavior. Teachers gave explanations in the qualitative part that answers the second research question that could be linked to this result. Teachers stated reasons for students’ misbehaviour in the classroom. Among the reasons were the ineffective implementation of code of conduct and those students

were in a critical age and required more attention. Students' misbehaviour may influence the time that teachers spent in the classroom trying to illustrate and clarify the Mathematics content. Therefore, they spent more time than usual.

Table 6.25

*The pairwise comparisons of time spent in teaching by administrative support*

### Pairwise Comparisons of Time spent in teaching



Each node shows the sample average rank of Time spent in teaching.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
<b>A lot more-A bit less</b>	37.937	17.323	2.190	.029	.171
<b>A lot more-A bit more</b>	48.429	14.908	3.249	.001	.007
<b>A lot more-exact time</b>	56.147	14.518	3.867	.000	.001
<b>A bit less-A bit more</b>	-10.491	13.788	-.761	.447	1.000
<b>A bit less-exact time</b>	-18.210	13.365	-1.362	.173	1.000
<b>A bit more-exact time</b>	7.718	10.039	.769	.442	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table 6.26

*The pairwise comparisons of time spent in teaching by workplace atmosphere*

(I) Time spent in teaching	(J) Time spent in teaching	Mean Difference (I-J)	P
A bit less	exact time	-.12366	.842
	A bit more	.02873	.998
	A lot more	.44348	.104
exact time	A bit less	.12366	.842
	A bit more	.15238	.528
	<b>A lot more</b>	<b>.56714*</b>	<b>.003</b>
A bit more	A bit less	-.02873	.998
	exact time	-.15238	.528
	A lot more	.41476	.065
<b>A lot more</b>	A bit less	-.44348	.104
	<b>exact time</b>	<b>-.56714*</b>	<b>.003</b>
	A bit more	-.41476	.065

\*The mean difference is significant at the 0.05 level.\*

Table 6.27

*The pairwise comparisons of time spent in teaching by student behaviour*

(I) Time spent in teaching	(J) Time spent in teaching	Mean Difference (I-J)	P
A bit less	exact time	-.13324	.853
	A bit more	-.24752	.463
	A lot more	.35185	.363
Exact time	A bit less	.13324	.853
	A bit more	-.11428	.801
	<b>A lot more</b>	<b>.48509*</b>	<b>.044</b>
A bit more	A bit less	.24752	.463
	exact time	.11428	.801
	<b>A lot more</b>	<b>.59937*</b>	<b>.008</b>
<b>A lot more</b>	A bit less	-.35185	.363
	<b>exact time</b>	<b>-.48509*</b>	<b>.044</b>
	<b>A bit more</b>	<b>-.59937*</b>	<b>.008</b>

\*The mean difference is significant at the 0.05 level

#### 6.4.9 View of their Own Effectiveness

Table 6.28

*Mean and Standard Deviation for dimensions of satisfaction by view of own Effectiveness as a Mathematics teacher*

Dimensions	Own effectiveness	Numbers of participants	Mean	SD	Type of test	p-value
Administrative support	Superior	86	4.00	0.95	$H(2)$ =14.728	0.001
	Above average	105	3.59	0.89		
	Average	38	3.50	0.98		
Workplace atmosphere	Superior	86	3.39	0.85	$F(3,226)$ =2.864	0.04
	Above average	105	3.11	0.63		
	Average	38	3.13	0.87		
Teaching efficacy	Superior	83	4.24	0.56	$H(2)$ =44.944	0.001
	Above average	105	3.82	0.47		
	Average	36	3.49	0.73		
Students behaviour	Superior	75	4.13	0.67	$F(3,209)$ =14.014	0.001
	Above average	103	3.72	0.75		
	Average	35	3.15	0.88		

Test statistics  $H$  and  $F$  are used for Kruskal- Wallis test and ANOVA test respectively.  $P\text{-value} \leq (0.05)$

Table 6.28 shows a comparison of the four dimensions of job satisfaction in terms of the participants' views of their own effectiveness as Mathematics teachers. *Kruskal-Wallis* tests were conducted to compare levels of satisfaction by view of own effectiveness as a Mathematics teacher for the administrative support and teaching efficacy dimensions and one way *ANOVA* tests were conducted for the workplace atmosphere and students' behaviour dimensions. It can be seen in Table 6.28 that there are statistically significant differences in job satisfaction for administrative support ( $H(2) = 14.728, p = 0.001$ ), workplace atmosphere ( $F(3,226) = 2.864, p = 0.04$ ) teaching efficacy ( $H(2) = 44.944, p = 0.001$ ), and students behaviour ( $F(3,209) = 14.014, p = 0.001$ ) for teachers view of their own effectiveness as Mathematics teachers.

Regarding administrative support, Teachers who chose “*Superior*” were the most satisfied teachers with administrative support ( $M=4.0$ ;  $SD=0.95$ ). The *Dunn-Bonferroni post hoc* method, which followed the significant *Kruskal-Wallis test* (see Table 6.29), showed that the group of teachers who chose “*Superior*” have a statistically significant difference in the average score as compared to the average score from the group of teachers who chose “*Average*” ( $p = 0.008$ ). Moreover the group of teachers who chose “*Superior*” have a statistically significant difference in the average score as compared to the average score from the group of teachers who chose “*Above average*” ( $p = 0.002$ ) for administrative support.

Regarding workplace atmosphere, teachers who chose “*superior*” were the most satisfied teachers with workplace atmosphere ( $M=3.39$ ;  $SD=.85$ ). *Tukey post hoc pairwise* test (see Table 6.30) shows that the group of teachers who chose “*Superior*” have a statistically significant difference in the average score as compared to the average score from the group of teachers who chose “*Above average*” ( $p = 0.029$ ) for workplace atmosphere.

Regarding teaching efficacy, Teachers who chose “*superior*” were more satisfied with teaching efficacy ( $M=4.24$ ;  $SD=0.56$ ). Using *Dunn-Bonferroni post hoc* method, which followed the significant *Kruskal-Wallis test* (see Table 6.31), the group of teachers who chose “*Average*” have a statistically significant difference in their average score as compared to the average score for other groups of teachers who chose “*Superior*” ( $p = 0.000$ ). Moreover, the group of teachers who chose “*Above average*” have statistically significant differences in their average scores as compared

to the average scores for other groups of teachers who chose “*Superior*” ( $p = 0.000$ ) for teaching efficacy.

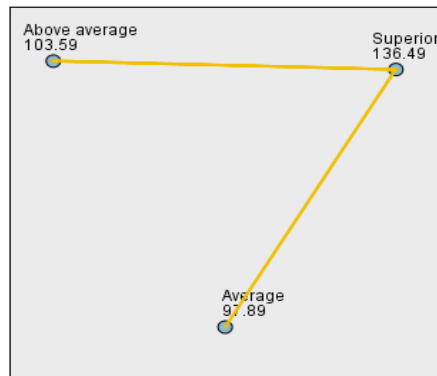
Finally, in respect to students behaviour, teachers who chose “*Superior*” were the most satisfied teachers with teaching efficacy ( $M = 4.13$ ;  $SD = .67$ ). *Tukey post hoc pairwise* test (see Table 6.32) shows that the group of teachers who chose “*Superior*” have a statistically significant difference in their average score as compared to the average score for the group of teachers who chose “*Above average*” ( $p = 0.001$ ). The group of teachers who chose “*Superior*” have a statistically significant difference in their average score as compared to the average score for the group of teachers who chose “*Average*” ( $p = 0.000$ ) for students behaviour. Moreover, the group of teachers who chose “*Above average*” have a statistically significant difference in their average score as compared to the average score for the group of teachers who chose “*Average*” ( $p = 0.000$ ) for students behaviour.

The quantitative descriptive data analysis that answers the first research question, indicates high levels of teachers’ job satisfaction with teaching efficacy. Almost 95% of the teachers who participated in answering this dimension of the survey were “*very satisfied*” with their levels of teaching efficacy. Teachers in the qualitative part that answers the second research question of this study, sections (6.3.8.1&2) of this thesis, clarified that their teaching efficacy is very high because of two factors. First their teaching experience which contributed to their knowledge of the curriculum and second, their pre-service qualification and in-service professional training.

Table 6.29

*The pairwise comparisons of view of own effectiveness by administrative support*

**Pairwise Comparisons of View of own effectiveness as a Mathematics teacher**



Each node shows the sample average rank of View of own effectiveness as a Mathematics teacher.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Average-Above average	5.696	12.528	.455	.649	1.000
Average-Superior	38.594	12.891	2.994	.003	.008
Above average-Superior	32.898	9.624	3.418	.001	.002

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table 6.30

*The pairwise comparisons of view of own effectiveness as a Mathematics teacher by workplace atmosphere*

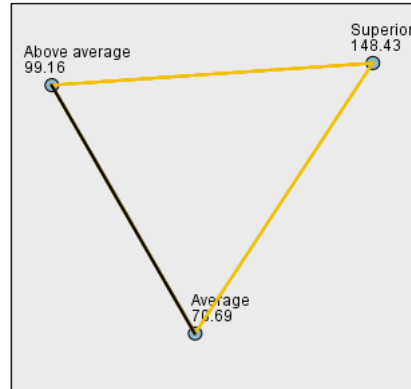
(I) View of own effectiveness as a Mathematics teacher	(J) View of own effectiveness as a Mathematics teacher	Mean Difference (I-J)	p
<b>Superior</b>	<b>Above average</b>	<b>.28308*</b>	<b>.029</b>
	Average	.25649	.195
<b>Above average</b>	<b>Superior</b>	<b>-.28308*</b>	<b>.029</b>
	Average	-.02659	.981
<b>Average</b>	Superior	-.25649	.195
	Above average	.02659	.981

\*The mean difference is significant at the 0.05 level

Table 6.31

*The pairwise comparisons of View of effectiveness by teaching efficacy*

**Pairwise Comparisons of View of own effectiveness as a Mathematics teacher**



Each node shows the sample average rank of View of own effectiveness as a Mathematics teacher.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Average-Above average	28.467	12.557	2.267	.023	.070
Average-Superior	77.734	12.951	6.002	.000	.000
Above average-Superior	49.267	9.517	5.177	.000	.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table 6.32

*The pairwise comparisons of view of own effectiveness as a Mathematics teacher by students behaviour*

(I) View of own effectiveness as a Mathematics teacher	(J) View of own effectiveness as a Mathematics teacher	Mean Difference (I-J)	p
<b>Superior</b>	<b>Above average</b>	<b>.40915*</b>	<b>.001</b>
	<b>Average</b>	<b>.97354*</b>	<b>.000</b>
<b>Above average</b>	<b>Superior</b>	<b>-.40915*</b>	<b>.001</b>
	<b>Average</b>	<b>.56439*</b>	<b>.000</b>
<b>Average</b>	<b>Superior</b>	<b>-.97354*</b>	<b>.000</b>
	<b>Above average</b>	<b>-.56439*</b>	<b>.000</b>

\*The mean difference is significant at the 0.05 level

#### 6.4.10 Courses of Professional Development Attended

Table 6.33

*Mean and Standard Deviation for dimensions of satisfaction by Mathematics course attended*

Dimensions	Mathematics courses	Numbers of participants	Mean	SD	Type of test	p
Administrative support	1 to 5 courses	105	3.60	0.98	$H(2)$ $=4.337$	0.11
	6 to 10 courses	66	3.75	0.931		
	More than 11 courses	59	3.92	0.89		
Workplace atmosphere	1 to 5 courses	105	3.23	0.86	$F(2,227)$ $=.100$	0.91
	6 to 10 courses	66	3.18	0.72		
	More than 11 courses	59	3.22	0.75		
Teaching efficacy	<b>1 to 5 courses</b>	<b>103</b>	<b>3.82</b>	<b>0.63</b>	$F(2,223)$ <b><math>=4.062</math></b>	<b>0.02</b>
	<b>6 to 10 courses</b>	<b>65</b>	<b>3.92</b>	<b>0.56</b>		
	<b>More than 11 courses</b>	<b>57</b>	<b>4.10</b>	<b>0.61</b>		
Students behaviour	1 to 5 courses	99	3.73	0.86	$H(2)$ $=4.092$	0.13
	6 to 10 courses	63	3.65	0.84		
	More than 11 courses	52	3.99	0.64		

\*Test statistics  $H$  and  $F$  are used for Kruskal- Wallis test and ANOVA test respectively.  $P$ -value  $\leq (0.05)$

Table 6.33 shows a comparison of the four dimensions of job satisfaction by Mathematics courses attended. *Kruskal-Wallis* tests were conducted to compare levels of satisfaction by Mathematics courses attended in the administrative support and students' behaviour dimensions and one way *ANOVA* tests were conducted for the workplace atmosphere and teaching efficacy dimensions. It can be seen in Table 6.33 that there are statistically significant differences in job satisfaction for teaching efficacy ( $F(2,223) = 4.062, p = 0.02$ ) for Mathematics courses attended. Teachers who attended more than 11 courses were the most satisfied teachers with teaching efficacy with a mean of ( $M = 4.10; SD = 0.61$ ).

*Tukey post hoc* test (see table 6.34) showed that teachers who attended 1-5 courses have a statistically significant difference in their average score as compared to the average score of teachers who attended more than 11 courses ( $p = .013$ ) for teaching efficacy.

Teachers in the qualitative part that answers the second research question of this study, section (6.3.8.2), awe their high levels of satisfaction with their teaching efficacy to the in-service professional development course and training that they attend. Those teachers learned from these courses and strengthened their teaching skills. They attended more than eleven courses in Mathematics teaching and pedagogy. Therefore, this may have had an influence on their teaching efficacy and led them to believe that their teaching efficacy is strong.

Table 6.34

*The pairwise comparisons of Mathematics course attended by teaching efficacy*

(I) Mathematics course attended	(J) Mathematics course attended	Mean Difference (I-J)	p
1 to 5 courses	6 to 10 courses	-.09851	.563
	<b>11 courses</b>	<b>-.28447*</b>	<b>.013</b>
6 to 10 courses	1 to 5 courses	.09851	.563
	11 courses	-.18597	.210
11 courses	<b>1 to 5 courses</b>	<b>.28447*</b>	<b>.013</b>
	6 to 10 courses	.18597	.210

*\*The mean difference is significant at the 0.05 level*

### **6.5 Discussion of the Third Research Question**

The previous section presented quantitative results to answer the third research question in regard to the relationship between the socio-demographic factors and the four dimensions of job satisfaction. Regarding gender, there are statistically significant gender differences in teachers' job satisfaction for workplace atmosphere and students behaviour. Male teachers were more satisfied with workplace atmosphere and students behaviour than female teachers. This may be interpreted in terms of the cultural aspects of the Saudi society. Men in the Saudi context are expected to socialize and move freely in the society. Unlike females, who apart from their jobs, spend most of their time at home looking after the family (Hamdan, 2005). This advantage, being free to socialize, influences the way males experience different situations and behaviour. Therefore, they might have been better than females to adapt to the school atmosphere. They have more of the social skills required to deal with school principal, colleagues, and students. This could explain why female teachers seemed less satisfied with the workplace atmosphere than male teachers in this study. This low level of satisfaction among female teachers may require attention to the school atmosphere and the need to improve the working conditions for female teachers.

It was also found that there was a statistically significant difference in teachers' teaching grade, job satisfaction and students' behaviour. Teachers who teach grade 7 had the highest level of satisfaction with students' behaviour, as compared to teachers teaching grades 8 or 9. According to the participants in this study, students in years 8 and 9 are found to be difficult to deal with. Teachers explained, in the qualitative part of this study, that this is because, in Saudi Arabia, the code of conduct that regulates

student behaviour is not well enforced and is not implemented in a sufficient and effective way. The results raise concerns in regards to students' behaviour in Middle schools in Jeddah. Their behaviour may affect their achievement in Mathematics; hence, the Ministry needs to direct schools into implementing the code of conduct in an effective way in order to regulate students' behaviour. This area requires further study.

With respect to teachers' experience, there are statistically significant differences between teaching experience and job satisfaction in terms of administrative support, teaching efficacy, and students' behaviour. Teachers who have more than 15 years of teaching experience had the highest level of satisfaction with administrative support, teaching efficacy, and students' behaviour. This result indicates that only experienced teachers were able to find satisfaction with administrative support, teaching efficacy, and students' behaviour. This means that teachers with teaching experience of less than 15 years may be struggling with these three dimensions. As a result, there is a demand to bridge the gap between the group of teachers who hold more than fifteen years in experience and those with less experience. To do that, the Ministry can possibly think of enrolling teachers with teaching experience of less than 15 years in specific professional development in-service training courses. Another solution would be to ask the teachers with 15 years of experience to mentor teachers with less teaching experience. They may act as senior teachers and provide support to teachers. This support could be in the form of training beginner teachers in teaching skills and strategies that may assist them in dealing with students and administrative staff.

The analysis indicated that there are statistically significant school building type differences affecting job satisfaction in terms of workplace atmosphere and students behaviour. Teachers in government-owned school buildings were more satisfied with workplace atmosphere and students behaviour than those who taught in rented school buildings. This result was expected as the students in rented schools are large in number and the buildings are older and less well maintained. Jeddah has a greater proportion of rented schools, particularly in the poorer areas, with an average of 34% of rented schools with around 35 students in each classroom (General Directorate of Education in Jeddah, 2013). These results underline a serious dilemma that Saudi teachers have been enduring for a long time. Rented schools still exist and the Ministry is required to act fast in dealing with this issue. The workplace atmosphere and students behaviour contribute to the levels of teachers satisfaction. To improve the dimensions of teachers' job satisfaction, moving rented schools to government building schools would be an important initiative.

The data also shows that there are statistically significant differences with the teachers' highest degree and teachers' job satisfaction for teaching efficacy and students' behaviour. Teachers who hold a bachelor degree without a Diploma in Education were more satisfied with their teaching efficacy and their students' behaviour than other groups. This result was surprising as I expected that teachers with a Diploma of Education would be more satisfied with students' behaviour and teaching efficacy than teachers without a Diploma in Education.

This is because teachers with a diploma have the pedagogical knowledge of the curriculum and the knowledge of how to deal with students as they study child psychological and development progress. They are preferred by the Ministry when it comes to priority of employment. This result requires further investigation into why teachers without a Diploma in Education were more satisfied with students' behaviour and teaching efficacy than teachers with a Diploma of Education.

#### **6.6 Teachers' Perception of the Influence of Job Satisfaction on Students' Achievement in Mathematics**

This section answers the fourth question of this research study: 4- Based on the teachers' own perceptions, how might their levels of job satisfaction be related to their students' performance in Mathematics in Middle schools in Jeddah, Saudi Arabia?

As the question shows, teachers were asked to choose if they think their levels of job satisfaction may influence students' achievement in Mathematics or not. Teachers who answered this question were 114(49.6%). There were 50 (43.9%) teachers who answered "*No*" and that their level of satisfaction has nothing to do with the students' achievement in Mathematics. However, there were 64(56%) teachers who answered "*Yes*" and found that their levels of satisfaction affect students' achievement in Mathematics.

Teachers gave different explanations to the reasons why they think their levels of satisfaction may influence their students achievement in Mathematics. The explanations were coded into themes (see Table 6.35). There were 41(36%) teachers who answered the open ended question **54**. There were 35 (85.4%) teachers who answered the question in a clear way; 26(74.3) answered "*Yes*" and 9 (25.7%)

answered “No”. Teachers, who answered “Yes”, discussed three main points, which are: salary and rights, maternity leave and women's rights, and lack of teaching resources. They were distributed as follows:

Table 6.35

*The participants’ distribution according to the teachers who answered the open-ended question 54*

Issues	Salary and Rights	Maternity Leave and Female Rights	Lack of Teaching Resources
Number (%)	14(53.8%)	8 (30.8%)	11(42%)

The following section focuses on the reasons teachers wrote in the survey.

### 6.6.1 Salary and Rights

Fourteen (53.8%) teachers mentioned that the low salary is a major reason behind their low levels of performance inside the classrooms (see Table 6.35). Teachers complained about not being paid according to their deserved classification degree. This means that teachers who deserve to be on level five in the Ministry classification degree are placed on level two and sometimes on a monthly allowance for three to five years until the Ministry has the budget required to place them on level five. This had a negative impact on their productivity and they lost their confidence in the Ministry and the Justice system to regain their money and dignity. Those teachers believed that they still deserve compensation for all the time they spent teaching below their deserved levels.

Teachers explained how this has influenced their teaching practices in the classroom. A male teacher teaching grade seven in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education mentioned

that:

*“I have been teaching since the year 2000 and accepted to work on the allowance that the Ministry was paying at the time (4,200 Riyals. I had no choice but to accept. I wanted to be a teacher but the reality was harsh. I found that 4,200 meant nothing. I was not able to rent a flat or start a family with this salary. I waited around seven years before this could happen. Since then, I found that my financial problems were hanging around even in the classroom; I couldn't teach well”*

"في التدريس منذ العام 2000 و وافقت على العمل براتب 4200 ريال ولم يكن لدي خيار آخر لأنني أرغب أن أكون معلما ولكن الواقع صعب. لقد وجدت ان 4200 ريال لا تساوي شيئا فلا أستطيع شراء شقة أو تكوين أسرة بهذا الراتب وكان علي الانتظار سبع سنوات حتى احقق ذلك ومن ذلك الوقت وأنا أعاني من مشاكل مالية تأثرها ينعكس على أدائي في الفصل"

Another male teacher teaching grade eight in a government school building from the Southern region and holding a bachelor degree without a Diploma in Education mentioned that:

*“Me and a group of teachers are working on a case court to restore our money from the Ministry. We initiated this case since 2002. Do you think that this won't influence my performance in the classroom; yes it has. Imagine holding a BA in Mathematics and teaching almost for free for around five years. They will only get their money's worth”.*

"انا ومجموعه من المعلمين نتابع قضية ضد وزارة التعليم منذ 2002. هل تعتقد أن ذلك لا يؤثر على ادائنا في الفصل. تخيل أنك تملك بكالوريوس في الرياضيات وتعمل في التدريس تقريبا بالمجان و لمدة خمس سنوات. بقدر ما يدفعون لي سأعطيهم"

A female teacher teaching grade seven in a rented school building from the Central region and holding a bachelor degree with a Diploma in Education also clarified her view regarding the salary but she also related it to what she called “alienation from her family”:

*“I started teaching in 2001. I was paid 4,200 Riyals only and was teaching in a rural region. At that time, I was alone away from my family. I taught there for around four years before I moved to Jeddah. I thought that the Ministry will pay me back but nothing has changed. It was exhausting and humiliating when you know that you deserve more but you are paid an allowance only.”*

"بدايتي في التدريس كانت في عام 2001 وكنت اتحصل على 4200 ريال فقط. في تلك الفترة كنت ادرس في قرية بعيدة عن عائلتي ولمدة اربع سنوات، وبعد انتقالي لجدة توقعت ان الوزارة ستدفع لي الفروقات و لكن لم يتغير شيء. بصراحة هذا الأمر محبط و مهن خصوصاً عندما تعلم أنك تستحق راتب أكبر و يدفع لك مبلغ مقطوع"

Another female teacher teaching grade seven in a government school building from the Western region and holding a bachelor degree with a Diploma in Education stated:

*“I am not satisfied with my payment until now. The Ministry still owes me money “*

"لست راضيا عن راتي حتى الآن لأن لدي مستحقات سابقة لدى الوزارة لم تدفع لي حتى الآن"

A female teacher teaching grade eight in a government school building from the Northern region and who holds a bachelor degree with a Diploma in Education commented using a popular hashtag in Saudi Arabia:

*“The salary does not cover the needs”*

"الراتب لا يكفي الحاجة"

A male teacher teaching grade nine in a rented school building from the Eastern region and who holds a bachelor degree with a Diploma in Education said that:

*“Teachers low salaries and rights have become a rising issue. The Ministry should take this seriously”*

"حقوق المعلمين و رواتبهم المنخفضة أصبحت قضية معروفة و يجب على الوزارة التعامل معها بجدية"

A female teacher teaching grade eight in a rented school building from the Southern region and who holds a bachelor degree with a Diploma in Education said that:

*“Prophet Mohammad (Peace be upon him) said: «give the employee his/her wage before their sweat dries». I hope that the Ministry implement what they ask us to teach our students”*

"يقول الرسول صلى الله عليه وسلم ( اعط الأجير أجره قبل أن يجف عرقه ). أتمنى أن تطبق الوزارة ما تعلمه لطلابها"

Regarding their rights, teachers named healthcare and housing as two major rights they are deprived from. Before I discuss these rights, I just want to clarify why teachers in Saudi Arabia think that these two things are «rights». In Saudi Arabia, we have two major civil ministries and five militaries. All of them provide health insurance and housing allowance for their employers. The Ministry of Education is the only ministry that does not provide housing and health care insurance to its employers. This had irritated teachers and they mentioned that in the study.

Teachers mentioned that these two main services are their rights and they should be provided to them like the others. They mentioned that half of their salary is spent on healthcare and housing. This had added an economic pressure on their lives. It had also a negative impact on their motives to continue teaching.

A male teacher teaching grade seven in a government school building from the Eastern region and holding a bachelor degree without a Diploma in Education mentioned:

*"I am a teacher and I deserve a free health care; yet I am paying for this service. When the Ministry provides services for the teacher outside the school, he will give inside the classroom"*

"أنا معلم وأستحق تأمين صحي مجاني لأنني لا زلت أدفع مقابل هذه الخدمة بينما غيري يتمتع بها هل تعتقد بأن ذلك لن يؤثر على طريقة شروحي وعلى مستوى طلابي؟"

Another male teacher teaching grade eight in a government school building from the Northern region and holding a bachelor degree with a Diploma in Education commented:

*"My major concern is to own a house. Teaching is not a promising career when it comes to housing and healthcare. I'm still at the beginning so why not move to another sector"*

"كل الذي يشغلني هو امتلاك منزل. التدريس حاليا لا يقدم لي منزل ولا حتى تأمين صحي . انا لا زلت في البداية وأفكر في الانتقال الى عمل آخر"

A female teacher teaching grade eight in a government school building from the Northern region and holding a bachelor degree with a Diploma in Education said:

*"Most government employees hold health insurance cards. Teachers are the only party who do not have health insurance"*

"معظم موظفي الحكومة لديهم تأمين صحي ما عدا المعلمين"

A male teacher teaching grade seven in a rented school building from the Eastern region and holding a bachelor degree without a Diploma in Education stated:

*“Most teachers are likely to be diagnosed with blood pressure and diabetes. They need health insurance. Blood pressure and diabetes affect teachers’ performance inside the classroom”*

"أكثر المعلمين يعانون من الضغط و السكر و يحتاجون تأمين صحي. ضغط الدم و السكر يؤثران على اداء المعلمين داخل الفصل"

A male teacher teaching grade eight in a government school building from the Central region and holding a bachelor degree without a Diploma in Education commented:

*“If the Ministry wants education to develop, they should provide free healthcare and housing allowance for teachers”*

"اذا ارادت الوزارة تطور التعليم يجب ان توفر تأمين صحي و بدل سكن للمعلمين"

## 6.6.2 Maternity Leave and Female Rights

There were 8 (30.8%) female teachers complained about the maternity leave system and their rights to have a proper transportation mean to get to school (see Table 6.35). They found that being asked to return to teach after two months of leave with full payment is unfair and has a negative impact on their productivity inside the classroom. They return to teaching while still exhausted and miss their children. They believed that six months of full payment is what they deserve. They also demanded childcare centers which they can take their infants and toddlers to. Teachers also elaborated on their rights to drive cars to their schools. They also argued that if the government believed that the society is not ready for females to drive cars then the Ministry should provide safe means of transportation for female teachers to go to schools.

A female teacher teaching grade eight in a government school building from the Northern region and holding a bachelor degree with a Diploma in Education commented:

*“I returned to teaching after two months only of having my baby girl and I needed to wait for six months until summer holidays to stay home and enjoy my time with my baby. This is too complicated. I am teaching students here at school and looking after their education while in the meantime my baby is at home with a maid and not with me around her. The two months maternity leave isn't enough and is unfair for me as a mother and for the students as the teacher is busy thinking of her baby and this influences her teaching”*

“عدت للتدريس بعد شهرين فقط من ولادة ابنتي و يجب ان انتظر ستة أشهر حتى ابقى معها في المنزل. أمر في غاية التعقيد فأنا ادرس الطالبات في المدرسة وأهتم في تعليمهم وفي نفس الوقت أبني في المنزل مع المريية ولست قريبة منها. فترة شهرين لإجازة الأمومة لا تكفي أبدا فهي ظلم للأم و كذلك للطالبات لأن تعليمهن يتأثر جراء انشغال المعلمة في الإهتمام بمولودها”

A female teacher teaching grade nine in a government school building from the Western region and holding a bachelor degree with a Diploma in Education is also suffering:

*“Yes, teachers’ low levels of satisfaction may influence students’ achievement. Recently, I cannot get enough sleep; my baby is awake all night long. I come to school feeling tired and on my nerves. I feel exhausted and too weak to walk around the class and teach Mathematics”*

"نعم انجاز الطالبات يتأثر بانخفاض رضى المعلمه.في الفترة الأخيرة أصبحت احضر للمدرسة متعبة جدا لأن طفلي لا ينام حتى الفجر ومن الصعب أن اشرح الدرس جيدا و أنا بهذه الحالة"

Most of the female teachers stated that they found it difficult to find appropriate childcare for their children.

A female teacher teaching grade eight in a government school building from the Eastern region and holding a bachelor degree with a Diploma in Education said:

*“Maternity leave is only two months and I have to leave my three months child with a maid. I fear she will hurt him as cases of babies being murdered by maids are common these days and this causes me a problem at school”*

"اجازة الأمومه شهرين فقط و يجب علي ترك طفلي الذي عمره (ثلاثة) أشهر مع الخادمة. اخاف أن تعتدي عليه. قضايا قتل الاطفال من الخادماات اصبحت منتشرة وهذا يسبب لي مشاكل في المدرسة"

A female teacher teaching grade seven in a government school building from the Western region and holding a bachelor degree without a Diploma in Education commented:

*“Childcare centers are rare and expensive in Jeddah”*

"الروضات في جدة نادرة و غالية جدا"

A female teacher teaching grade eight in a rented school building from the Central region and holding a bachelor degree with a Diploma in Education stated:

*“This has a great impact as the Ministry said that they are going to open child care centers inside schools but nothing happened”*

*“يؤثر جدا. الوزارة وعدتنا بافتتاحروضات في المدارس ولكن ذلك لم يحصل”*

In fact, there are few childcare centers in Saudi Arabia. Mothers must leave their children with female servants or family. However, two children from different cities in Saudi Arabia were killed recently by house servants (<http://www.arabnews.com/news/498126>). This made female teachers fearful about leaving children alone with servants.

In addition, school location posed a problem for some of teachers as they work far from their residential areas. Female teachers believe that it is the Ministry’s duty to provide transportation to teachers who teach far from their residential areas. They spent a lot of money to buy cars and have to pay drivers to take them to their school location.

A female teacher teaching grade eight in a rented school building from the Eastern region and holding a bachelor degree without a Diploma in Education mentioned:

*“I bought a car that costed me around 48 thousand Riyals and I pay my driver around 2,500 Riyals monthly. I also need to provide him [driver] with accommodation. This costs me a lot. The Ministry should pay for that and not me. What is left from the salary does not deserve all that trouble”*

"قمت بشراء سيارة ب 48 الف ريال و ادفع للسائق 2500 ريال شهريا مع توفير مقر سكته لكي يوصلني الى المدرسة. يجب أن تعوضنا الوزارة ببديل نقل لأن المتبقي من الراتب لا يستحق العناء"

A female teacher teaching grade seven in a government school building from the Central region and holding a bachelor degree with a Diploma in Education said:

*"It is difficult to find a suitable mean of transportation to work. I am not allowed to drive [due to political law] and the school is located far from where I live. Hence, if you are not satisfied with your job, your performance will be less than expected"*

"من الصعب الحصول على وسيلة نقل مناسبة الى العمل. وفوق ذلك غير مسموح لي بالقيادة لأسباب سياسية و المدرسة بعيدة من الموقع الذي اسكن فيه. بالطبع عندما لا تكون مرتاحا في اداء عملك فإن الإنتاجية ستكون أقل من المتوقع"

A female teacher teaching grade nine in a rented school building from the Southern region and holding a bachelor degree with a Diploma in Education stated:

*"The government should provide safe transportation as many female teachers have died due to the low quality buses and rented cars"*

"يجب ان توفر الحكومة وسائل نقل آمنة لأن الكثير من المعلمات يموتون نتيجة ضعف كفاءة الباصات والسيارات المستأجرة"

### 6.6.3 Lack of Teaching Resources

There were 11(42%) teachers who expressed their dissatisfaction with the lack of teaching resources in the school and believe that this have a negative impact on their students' achievement in Mathematics (see Table 6.35). Teaching aids were an issue that teachers already pointed out in Workplace Atmosphere. However, in this

section, teachers mentioned how the new curriculum requires the use of specific teaching aids such as computers and overhead devices. They complained from absence of suitable teaching aids. These teaching instruments are important for teaching Mathematics. They also expressed their concerns that schools in general, either rented or government, fall behind in regards to integrating technology in teaching Mathematics. They also expressed their anger over the new curriculum that was implemented in 2004. They found it lengthy and difficult to implement in schools that lack teaching resources. Teachers wrote different answers regarding teaching resources. The following are selected quotes.

A male teacher teaching grade seven in a rented school building from the Central region and holding a bachelor degree with a Diploma in Education mentioned that:

*"I teach a class that has 40 students. I was hoping that the classroom was bigger and to find space for learning activities but there is no space. I'm also looking forward to hear from the Ministry regarding some teaching aids that I requested last year. These aids are essential in teaching students and would make learning Mathematics much more interesting"*

"أدرس فصل عدد الطلاب فيه اربعين طالبا. كنت أتمنى أن يكون الفصل أكبر لكي اطبق بعض الأنشطة ولكن ليس هناك أي مساحة . هناك بعض الوسائل التعليمية التي طلبتها من الوزارة ولا زلت في انتظارها لأنها مهمة في تعليم الطلبة و تجعل تعلم الرياضيات أكثر متعة"

Another male teacher teaching grade nine in a rented school building from the Eastern region and holding a bachelor degree with a Diploma in Education also complained from the lack of teaching aids. He stated:

*"Teaching aids are important. The lack of these aids makes learning Mathematics boring and affect students interest in learning Mathematics"*.

"الوسائل التعليمية مهمه و غيابها يجعل تعليم المادة ممل مما يؤثر على استمتاع الطلبة بتعلم الرياضيات"

A female teacher teaching grade seven in a rented school building from the Southern region and holding a bachelor degree with a Diploma in Education commented:

*"Students nowadays do not like the way we teach using the book and the blackboard. They find this method boring. I know that I need to use teaching aids and supporting materials but cannot offer them. This is affecting the way students learn and my teaching performance in the classroom"*.

"الطالبات لا يحبن الطريقة التي نشرح بها باستخدام الكتاب و السبورة و يشعرون بأنها مملة . اعرف أنني احتاج بعض الوسائل التعليمية و لكنني لا أستطيع توفيرها. هذا يؤثر على تعليم الطالبات و على أدائي في الفصل"

The other group of teachers argue that teaching Mathematics requires integration of technology.

A female teacher teaching grade nine in a rented school building from the Southern region and holding a bachelor degree with a Diploma in Education said:

*"I think we need two smart boards in each class. It will facilitate teaching Mathematics and help students to learn. The way I am teaching is not convincing. I am not happy with my teaching. I believe the existence of smart boards will help me and improve students' achievement in Mathematics"*

"اعتقد أننا نحتاج سبورتين ذكية في كل فصل دراسي لتسهيل تدريس الرياضيات و مساعدة الطالبات في التعلم. طريقي في التدريس ليست مقنعة و لست سعيدة في تدريسي . أنا متأكدة أن وجود السبورة الذكية سيساعد على تحسين نتائج الطالبات في الرياضيات"

Another female teacher teaching grade seven in a government school

building from the Central region and holding a bachelor degree with a Diploma in Education said:

*"I am not satisfied with the way I deliver the content. The new curriculum requires the integration of technology inside the classroom. This is not happening. Therefore, this has affected the way I teach and also students' achievement in Mathematics"*

لست راضية بالطريقة التي اشرح بها المنهج. المنهج الجديد يتطلب استخدام التكنولوجيا في الفصل و لكن ذلك لا يحدث و لذلك هذا يؤثر على طريقة تدريسي و أيضا على انجاز الطالبات في المادة"

Moreover, a male teacher teaching grade nine in a rented school building from the Southern region and holding a bachelor degree without a Diploma in Education stated:

*"I am afraid we are falling behind when it comes to integrating technology. Our students are looking forwards to use technology when learning Mathematics but I am not doing so because these facilities are not available. This is frustrating especially that my supervisor will afterwards ask why my students level in Mathematics is low. This is because teaching Mathematics became boring without integrating technology"*

"اعتقد أننا متأخرين جدا عندما نتحدث عن استخدام التكنولوجيا في التعليم. طلابنا ينتظرون استخدامها و لكنني لا أستطيع فعل ذلك لأنها غير متوفرة. هذا محبط لأن المشرف يسألني عن اسباب هبوط مستوى الطلبة في الرياضيات. السبب هو أن تدريس الرياضيات اصبح ممل جدا بدون استخدام التكنولوجيا"

There was a group of teachers who said that there was no relationship between students' achievement in Mathematics and teaches' levels of satisfaction. 9 (25.7%) teachers gave this answer. Their answers were focused around two points; teachers should be resilient and overcome different challenges. They also believed that from a religious point of view, teachers should perform their best as advised by Prophet Mohammad peace be upon him.

A male teacher teaching grade seven in a government school building from the Northern region and holding a bachelor degree without a Diploma in Education stated:

*“As a teacher, I believe that being satisfied with teaching or not has no relationship with students’ achievement in Mathematics”*

"كمعلم أعتقد أن كوني راضي عن التعليم أو غير راضي ليس له علاقة بنجاح الطلاب في الرياضيات"

A male teacher teaching grade nine in a rented school building from the Eastern region and holding a bachelor degree without a Diploma in Education said:

*“There is no relationship between students’ achievement in Mathematics and being satisfied with my teaching career. We need to focus on students’ interests and leave our work difficulties behind”*

"ليس هناك أي علاقة بين تحصيل الطلاب في الرياضيات و مدى رضاي عن مهنة التدريس"

A female teacher teaching grade eight in a rented school building from the Eastern region and holding a bachelor degree without a Diploma in Education stated:

*“Teachers should perform their best inside the classroom regardless if they are satisfied with their working circumstances or not”*

"يجب على المعلمين عمل كل ما في وسعهم داخل الفصل بغض النظر عن رضاهم او عدم رضاهم عن ظروف العمل"

A female teacher teaching grade seven in a rented school building from the Southern region and holding a bachelor degree with a Diploma in Education stated:

*“I am not satisfied with the education level in Saudi Arabia.*

*Every year things become worse than before. However, my students are doing well in the subject; and their achievement has not been influenced of how I think about the education in Saudi Arabia”*

"أنا غير راضية عن وضع التعليم في السعودية و كل عام تصبح الأمور أصعب من العام السابق لكن بصراحة مستوى طالباتي جيد في المادة و لم يتأثر بقناعتي في سوء التعليم لدينا"

A male teacher teaching grade seven in a government school building from the Central region and holding a bachelor degree with a Diploma in Education mentioned:

*“I do not think that there is any relationship between students’ achievement in Mathematics and teachers level of satisfaction. I am not satisfied with my teaching career but my students’ achievement in Mathematics is high”*

"لا اعتقد أن هناك أي علاقة بين مستوى الطلاب في الرياضيات ورضاي الوظيفي. أنا غير راضي عن وضع التعليم لكن مستوى طالباتي في المادة مرتفع"

## **6.7 Discussion**

This study aimed at investigating the relationship between teachers’ levels of job satisfaction and students’ achievement in Mathematics. This study found that there is a relationship between teachers’ levels of job satisfaction and students’ achievement in Mathematics. Around 64 out of 114 teachers answered “Yes” their level of job satisfaction influences students’ achievement in Mathematics and they gave reasons for that.

The study then found a relationship between teachers’ level of job satisfaction and students’ achievement in Mathematics. Based on the teachers’ perceptions, the more they are satisfied, the better they will perform in the classroom. Likewise, the low level of satisfaction teachers feel in their job is reflected in the low performance they will present in the classroom. These results

are in agreement with Demirtas (2010) in Turkey. He examined teachers' level of job satisfaction and its relation to the quality of teaching. The Teaching Satisfaction Survey (TSS) was used. The study found that high levels of job satisfaction may affect the quality of education received by students. The results were also similar to Caprara, Barbaranelli, Steca, Malone (2006). They investigated how 75 Italian teachers self-efficacy was a determinant of job satisfaction and students achievement. They found no significance relation between self-efficacy and students achievement; however, Caprara et al (2006) found that teachers' job satisfaction was related to students' achievement.

The explanations that teachers provided were coded into three major themes: teachers' salary and rights, maternity leave and female rights, and the lack of teaching resources. Teachers were dissatisfied with their financial state and also believe that the Ministry owes them money. They struggle to teach and to accept the fact that some of them taught for a while with an allowance of 4,200 Riyals monthly. This has affected them and made them develop negative feelings towards their job and towards the Ministry as the institution of education. It also left them anxious about their financial rights and are always in conflict with the Ministry. They feel that their case will not be solved, so most of them are frustrated. This, with no doubt, has affected their performance inside the classroom. This result was also discussed and found in Lee's (2006) study. Lee (2006) examined the school factors affecting teachers' job satisfaction such as salary, welfare conditions, school management and principal leadership and their implications on educational achievement by comparing two non-governmental primary schools in Cambodia. The result illustrated that the salary was the most important factor that affects

teachers' satisfaction in their jobs.

According to Bishay (1996), the importance of teachers' satisfaction dictates that we take into account the teachers feelings in their daily work; an issue that is reflected on their students. Teachers' levels of job satisfaction can contribute to students' progress, quality of education and teaching stability. According to Hosseinkhanzadeh, Hosseinkhanzadeh, and Yeganeh (2013), teachers' levels of job satisfaction are important to discuss because they affect the students' progress, quality of education and teaching stability. In other words, the quality of teaching and students' progress could be affected by the levels of job satisfaction teachers feel they have in their jobs.

The findings of this study are consisted with a number of studies reviewed in the literature review of this study. A considerable number of these studies found that the working conditions that facilitate learning and salary were the main issues that influence teachers' teaching and productivity inside the classroom. For example, Ulina and Moran (2007) investigated the relationship between school climate and students achievement in USA. The results illustrated that school climate plays a significant role in students achievement. The study explained that if the schools lack the adequate environment and appropriate facilities which enhance the student's level of learning, then the level of achievement will be low. The study also showed that teachers' attitude, behaviour, and teaching style will be of poor quality and underestimated to support students learning. These issues were likewise expressed and mentioned by the teachers teaching in Jeddah as they believe that the lack of

adequate teaching aids have affected the way they teach. They were not happy with their teaching style and hoped to integrate technology in teaching Mathematics.

Likewise, Sargent and Hannum (2005) in China examined the factors that lead to satisfaction among teachers in poor rural areas. The study hypothesized that teachers working in schools with high economic state and light workload were satisfied. The study found that teachers are satisfied in schools with high economic state that provide all the required teaching and learning facilities. The study also found that teachers remain in the job longer when they are paid on time and when there are greater opportunities for professional discussion and collaboration. Additionally, Ninomlya and Okata (1990) conducted a study to explore what Japanese teachers needed to be satisfied in their jobs. The study concluded that the government needs to improve job satisfaction for teachers by reducing the class size, increasing training courses and increasing the salary. Abdullah, Uli and Parasuraman (2009) conducted a study to provide evidence on the differences of job satisfaction levels among secondary school teachers. The study assessed the levels of job satisfaction with respect to the following factors: work conditions and payment. The results showed that secondary school teachers, in Tawau Malaysia, were satisfied with their teaching job as a career. However, teachers were not satisfied with the poor payment they receive and with the working conditions, especially in the rural schools.

Teachers also believed that factors such as healthcare and housing support were affecting their levels of satisfaction and in turn their teaching inside the classroom. This is in consistence with the results found by Lee (2006) that factors

affecting teachers' job satisfaction such as salary, welfare conditions, school management and principal leadership and their implication on educational achievement in Cambodia. Another study that found similar results was by Ololube (2006) in Nigeria. He found that teachers were not satisfied with the payment and working conditions. They requested reasonable payment that could cover their essential needs such as health care and clothing. Teachers in that study felt cheated and insecure because they were underpaid.

Teachers in this study reported that they were handling the pressure of providing these needs alone without the support of the government or the welfare system. They were less motivated to teach and believed that a career other than teaching would be a better choice for them. They were not satisfied with their choice of teaching Mathematics. This has impacted their motives to teach and willingness to perform well inside the classroom. According to Murage and Kibrra (2014), teachers' job satisfaction is related to commitment, absenteeism, and turnover, thus, teachers who are not satisfied with their work will not perform well and this affects their productivity.

Transportation options are limited for females in Saudi Arabia. They seek assistance from their guardian male or depend on a driver to take them to school. In both cases they suffer. There are a number of cases reported in the media when female teachers could not go to their work because the male guardian refused to drive her, which affects her attendance and causes her students to fall behind in completing curriculum. Drivers often come on a visa to take teachers to their schools. This costs a lot of money. Teachers found themselves struggling financially

to pay the drivers. They need to buy a car and provide suitable accommodation for the driver to be able to work for her. In many cases, it is not safe and teachers often find themselves forced to leave teaching and stay at home or find another job.

Moreover, female teachers were dissatisfied with their maternity leave and the limited means of transportation. They found that these factors are important to consider by policy makers to enable them to perform well inside the classroom. Female teachers in Saudi Arabia are under the pressure of leaving their babies very early and returning to their work. They hold the view that the Ministry is responsible. This was reflected in their answers. They were furious and angry with the Ministry's decision to allow for only two months of full paid maternity leave. A female teacher would return to teaching leaving her baby behind under the care of a maid. This may cause them to feel worried and they might become occupied by the thought that the maid may harm the child at home. She may also become captivated with a feeling of guilt because she left her baby at such a young age. Under these conditions and pressure, we should not expect female teachers to teach well.

Teachers play an important role in the education field. The teacher is able to create an appropriate educational climate for all students and to deal with all cultural, cognitive and values that the student brings to school (Walshaw & Anthony, 2009). They need support and an adequate environment that enables them to perform their job in the most effective and sufficient manner. Issues such as low salary, healthcare, housing rights, maternity leave, and transportation, cause distractions for teachers. They are not satisfied with what they receive from the Ministry and are disappointed. This had led them to view the Ministry as an

opposition institution. They do not feel that they belong to the Ministry and are working under its umbrella. They believe that the Ministry and policy makers turn their backs on them and ignore their needs and rights. This has influenced teachers' levels of satisfaction. For instance, teachers in Jeddah are dissatisfied with what they have. This has a negative impact on their teaching effort inside the classroom. The negative feelings they carry against the Ministry had led to the fact that some teachers believe that their effort is worthless and that they will get nothing in return. Therefore, they are not trying to perform their best in the classroom. Some teachers stated this clearly, "Until the Ministry believes in our rights in healthcare and housing, do not expect the best performance". Other teachers were not confronted but the pressure was overwhelming, such as female teachers leaving their children at home at a very young age to go teach. They could not focus and feel their state of health is not helping them to be their best in the classroom.

Mathematics is a very critical subject that requires high effort from teachers to prepare and teach. According to Hattie (2003), teachers' knowledge, effective performance, and educational equity among students in the classroom reflect 30% of the major sources variance of educational process, while students have 50% of the variance of achievement. Thus, if teachers are struggling in their jobs and are not satisfied, then we should not expect great results and effort. It is essential that policy makers in the Ministry recognize teachers' needs and rights. They need to pay attention to teachers' voices and provide a healthy working environment to enable them to teach and perform their job in the best manner. Otherwise, students in Jeddah will face not only the challenge of Mathematics as a difficult subject but will also endure their teachers' negative attitude towards teaching, which would result in low levels of practices inside the classroom.

## **Chapter Seven: Findings, Limitations, and Future Studies**

### **Overview**

This chapter summarizes the findings of this research study. The findings were quantitative data, descriptive and inferential statistical analysis, and qualitative data in forms of emerging themes. They answered four research questions. In this chapter also the limitations of this study are discussed and how I dealt with these issues. Finally, I conclude with suggestions for future researches studies.

### **7.1 Findings**

This study was conducted to measure Middle School mathematics teachers' levels of job satisfaction in regards to four dimensions identified as significant in the literature: administrative support, workplace atmosphere, teaching efficacy, and students' behaviour. The study also examined the influences of socio-demographic factors in relation to the four dimensions on teachers' levels of job satisfaction. Finally, the study examined teachers' belief about whether their job satisfaction influences students' achievements in Middle schools in Jeddah, Saudi Arabia

First, in regard to the first and second questions of this research study, which are related to teachers' levels of job satisfaction with four job dimensions: administrative support, workplace atmosphere, teaching efficacy, and students' behaviour. Teachers were asked to rate their levels of job satisfaction in these four dimensions and provide explanations to why they were either satisfied or dissatisfied with each dimension in open-ended questions.

The study found that according to the teachers rating, they were more

satisfied with (in order of satisfaction): teaching efficacy, students' behaviour, administrative support and finally, workplace atmosphere. Teachers in Jeddah were satisfied with their teaching efficacy. They classify themselves as well prepared teachers and have the capacity to deliver the required content. They owe this to their educational background and teaching experience. However, teachers were critical of a few issues regarding the training courses. First, they complained that the training courses were held in the evening. Moreover, they are looking forward to having a chance in the scholarship program which was launched in 2004 by the government for all sectors including higher education employee expect for teachers.

Students' behaviour was the second less satisfactory dimension. Teachers mentioned three key issues that caused students to misbehave. First there was the grading system. For students to pass Mathematics in Middle School, they need to achieve 28 out of 100. Teachers usually use grading to control students' behaviour and force them to follow the classroom rules. This was effective when students were required to achieve 60 out of 100 to pass but with the new grading system, it is more difficult to force students to respect and follow classroom rules. The second issue that teachers pointed out is students' critical age. In Middle schools, students are growing and moving from childhood to teenagers. They go through a number of psychological and physical changes. This affects their actions and classroom progress. However, this may also bring to attention the importance of school counsellors and their roles in helping students manage this stage peacefully. Teachers did not mention anything in regards to school counselling, each school has a counsellor, and whether it was offered to students and teachers at school or not. The third issue is the ineffective implementation of the code of conduct. This action

has led students to misbehave because there are few rules that may regulate teachers and students relationships.

Administrative support came third in teachers' ratings. Teachers in this dimension were satisfied in general. However, in the qualitative responses they explained the issues that cause their feelings of dissatisfaction with administrative support. They mentioned that the administration staff insists that Mathematics teachers participate in school activities such as celebrating the national day and morning assemblies. Teachers found that these activities are exhausting and unnecessary. Mathematics teachers believe that Mathematics is a difficult subject and requires a great effort to be delivered. They are following a curriculum that includes eleven chapters in each semester and each chapter includes five to six lessons. They believe that teaching this amount of lessons requires teachers to be only teaching at all times and not to be involved in any extras-curricula activities. Moreover, they found that these activities are not interesting and have no academic benefit.

The second issue that teachers pointed out was the administration's failure to follow the Ministry's of Education rules in regards to allocating Mathematics lessons in the first four periods of the school timetable. Some teachers mentioned that they still teach in the sixth and seventh period at 12:30 pm and 1:30 pm. Students by that time are exhausted and it is hard to get them to focus on learning. The last point mentioned was the headmasters and headmistresses. Teachers mentioned that they often interfere in their teaching practices and in the way they deal with students. They believe that they should not be evaluated by their school

heads. Teachers wanted to have the opportunity to practice more democracy in school and to manage their teaching practices without the interference from their schools heads.

The least satisfactory dimension reported by teachers was workplace atmosphere. This was not a surprise, rather an expected outcome. As I mentioned previously, Jeddah has a greater proportion of rented schools, particularly in the poorer areas, with an average of 34% of rented schools with around 35 students in each classroom (General Directorate of Education in Jeddah, 2013). Teachers believe that these schools lack the necessary teaching resources, a school library, safety regulations, emergency exits, healthy food, playgrounds, and that the classrooms were crowded. The lack of all of these factors made the working atmosphere in Middle schools a dimension that was most criticized by teachers. They found that the absence of playgrounds and broad areas for students to use and play was the main cause of students' misbehaviour. Students needed open and broad areas where they can play and spend time with their friends. However, what rented schools offer were narrow corridors between classroom for students to sit and have their lunch. This was also against safety and hygiene regulations.

Teachers also complained about crowded classrooms. They found that these classrooms hindered students' learning. They could not divide students into groups or implement constructivist learning activities. Moreover, the size of the classrooms does not allow them to pay attention to students' individual learning needs.

In regard to the third research question, the influence of socio-demographic

factors on teachers' levels of satisfaction with the four identified dimensions, the study found that male teachers in general were more satisfied than women. This may be due to the nature of the Saudi Society that is dominant by men. They have the right to freely socialize and this, in return, has influenced their social skills. They learn from socializing how to interact with confidence with others and are able to adapt to different environments. Women, on the other hand, are socialised to be family oriented. They stay at home and look after their families most of the time. Furthermore, female teachers in this study were struggling with the short maternity leave and transportation availability as women are not permitted to drive. These two issues may increase female teachers' levels of dissatisfaction with their job.

Second, in regards to teaching levels, the study found that teachers were more satisfied with students' behaviour in grade seven than in grades eight and nine. Moreover, teachers in government schools were more satisfied than teachers in rented schools. The study also found that experienced teachers with 15 years of teaching were more satisfied than other teachers. Finally, teachers who hold a bachelor degree without a Diploma in Education were more satisfied with their jobs than teachers with a Diploma in Education.

The findings of the first part of the data clarified how socio-demographic factors of the teachers teaching Mathematics in Jeddah, Saudi Arabia may influence their levels of job satisfaction. There were few results that were predictable, such as men were more satisfied than women. As explained previously, this may be due to the fact that men are dominant in the Saudi context. In Saudi Arabia, and from a social and cultural perception, men are expected to be strong and bear all challenges.

This perspective may influence how men in the Saudi context interact with harsh working environment. On the other hand, women are expected to stay at home and look after the family. In reality, women in Saudi Arabia only entered the workforce in 1970 (Baki, 2004). Thus, their work experience is still limited. In return, this may have influenced their levels of job satisfaction.

The teachers who hold a bachelor degree with a Diploma in Education were less satisfied with their teaching efficacy and students' behaviour than those teachers without a Diploma. This result was not expected; rather it is surprising. I could not find any explanation for this finding. The only explanation I can offer, from my own experience, is that teachers in Saudi Arabia with a Diploma in Education were originally prepared to teach Primary students. Their education was targeting this stage of education. Therefore, they may find it difficult to apply what they have learned to the Middle school stage as the curriculum knowledge is more advanced than the Primary school and the students' behaviour is different and perhaps more challenging. They may have different expectations on how to teach Mathematics and deal with students, expectations that are consistent with Primary teaching but not Middle school teaching.

The last fourth question asked whether teachers' level of satisfaction has an influence on their students' achievements in Mathematics. Teachers' answers in relation to this question focused on three main issues: salary and rights, maternity leave and women's rights raised by female teachers, and the lack of teaching resources.

As mentioned in the Introduction, students in Jeddah achieved low results in TIMSS 2011. They were ranked 37 of 42 countries with average achievement equal 394 (Excellence Centre of Science and Mathematics Education, 2011). It seems that within the limits of this study teachers' levels of job satisfaction may have influenced their effectiveness in teaching as they reported. In the literature reviewed in this research, many had argued that teachers' levels of job satisfaction may influence students' achievements. Teachers' satisfaction often contributes to teachers' effectiveness and teachers' motivation which, in turn, lead to professional performance (Zembylas & Papanastasiou, 2004). Moreover, Ololube (2006) argues that teachers' job satisfaction may determine the success of any educational performance. Bishay (1996) also illustrated that the importance of teachers' satisfaction makes it necessary to take into account the feelings of teachers during their daily work which is reflected on their students. Finally, Hosseinkhanzadeh, Hosseinkhanzadeh, and Yeganeh (2013) stated that teachers' levels of job satisfaction are important to discuss because it affects the students' progress, quality of education and teaching stability. In Turkey, Demirtas (2010) found that the high levels of job satisfaction may affect the quality of education received by the students. Caprara, Barbaranelli, Steca, Malone (2006) found that teachers' job satisfaction was related to students' achievement.

Teachers found that their salaries are still low and that their payment is under their expectation. They are full time teachers and teaching is their only job so the payment should be equivalent to their effort. There is also their right to housing and medical care. In this study, teachers compare themselves to other labours in different governmental sectors. They get support in terms of housing and have

access to medical care. Teachers, however, are paying for these services. They believe that they need to be equal to other employers in other sectors. They claim that these payments are a burden and influence their performance in the classroom. They are not satisfied with what they get.

In regards to this point, I think that teachers are struggling financially. They pay for their medical treatment and their accommodation. In the last few years, the cost of these services increased in expenses and teachers are struggling to cope. They found that this struggle is affecting them and occupying their thoughts. This may influence their teaching practices which in turn may affect students' achievement in Mathematics.

The second issue that teachers stated was maternity leave and women's rights. This issue was pointed “loudly” by female teachers. They complained about the fact that full payment maternity leave is two months only. They believed that they deserve more and with full payment. They claimed that leaving their infants at an early age at home with servants, as we have limited childcare services in Jeddah, is worrying and affects their focus in teaching. Female teachers also mentioned that they are deprived of their rights to drive due to political rules in the country. This has exhausted them financially as they need to pay a driver and provide him with accommodation according to the rules. They want to be granted their right to drive their cars and not be a burden on their husbands anymore, as he or a driver need to drive them to their jobs. They also wanted the Ministry to provide them with safe transportation means that can take them to school.

The last issue was the lack of teaching resources. This issue was pointed out by teachers in the workplace atmosphere dimension. Teachers claimed that the new curriculum demands the use of teaching aids and technology devices. However, the Ministry did not provide them with these aids. They found themselves responsible for buying all these aids. This was a burden that they took on their shoulders as the Regional Offices did not respond to their requests for teaching aids.

This study was conducted to measure teachers' levels of satisfaction in regards to four dimensions of job satisfaction: administrative support, workplace atmosphere, teaching efficacy, and students' behaviour. It also aims at investigating the relationship between teachers' level of satisfaction and students' achievement in Mathematics in Middle schools in Jeddah. The study suggests that there is a relationship between teachers' levels of satisfaction and students' achievements. Teachers in this study pointed out that the working conditions and rights are required to be improved by the Ministry of Education. Teachers believe that their working conditions and financial status are still beyond their expectations. They want to see improvement with respect to these two factors as this is reflected on their performance in the classroom. They also associated the lack of teaching resources to students learning. They claimed that the implementation of the new curriculum requires the use of technology and tools that are not available as most schools are rented.

Female teachers had their own obstacles. They revealed that the duration of fully paid maternity leave of two months only was inconvenient. They found it hard to leave their children behind at such an early age. This negatively influences how

they perform inside the classroom. The safety of their children with maids is an issue as well. These worries are a burden that they deal with every day they go to school to teach. Another issue is the financial expenses of getting to their workplace. They are not allowed to drive and due to the laws of the country, they need to pay a driver to drive them to schools. The payment is around 2,400 Riyals monthly, that is 30% of female teachers' wages. They demand to be granted their rights to drive and save themselves the trouble of having a driver.

In conclusion, this study pointed out the importance of job satisfaction as a factor that may influence teachers' productivity inside the classroom. Teachers were given the chance to write and express their opinions on why they were either satisfied or dissatisfied with their career. Different issues emerged in this research. In each dimension, teachers have stated similar matters in regard to their levels of satisfaction. These issues reflect the context of education in Jeddah. They painted different pictures of how the workplace atmosphere was in reality. They gave descriptive details of rented schools and how classrooms are crowded. They also explained how such conditions affected their teaching practices and their motivation to teach inside the classrooms. Teaching efficacy was highly regarded by teachers and almost all participants were satisfied with this dimension. This was expected and, whether there was the reality of how teachers classify their performance or not, I cannot but accept their answers. The only surprising result was that teachers with a Diploma in Education were less satisfied with students' behaviour and teaching efficacy than teachers without a Diploma in Education. Regarding students' behaviour, teachers were all concerned about the code of conduct and its importance in regulating students' and teachers' relationships. Finally, teachers determined

three main issues that they found affecting their students' achievement in Mathematics. They were salary and rights, maternity leave and women's rights, and lack of teaching resources.

## **7.2 Limitations**

There are three main limitations in this study. First, the survey was quite long and there was a good number of teachers who did not complete the survey; hence, they were not included in the analysis. The study also included open-ended questions that the teachers needed to respond to. Their answers were not quite complete in many cases. They answered these questions using short and incomplete sentences or wrote verses from the Holy Quran and prophet Mohammad's (peace be upon him) sayings. This indicates how teachers handled the survey. Let me explain here that research in Saudi Arabia is not an activity that is practised and known to individuals. The importance of participating in a research project is still not well comprehended by society. Therefore, when researchers ask people to participate, they may not take the matter seriously. They also may doubt if their participation would help in solving a problem. It was very difficult to collect my data; I spent around four months to obtain 230 participants to complete the survey.

The second issue is the qualitative data. I understand that the best method to collect qualitative data is by using a direct method such as interviews. However, due to the cultural and religious norms in Saudi Arabia, I could not meet and sit with female teachers. Hence, I thought it would be better to collect qualitative data using open-ended questions in a mixed methods survey.

### **7.3 Future Studies**

This study points out the importance of teachers' job satisfaction. It is a significant factor that may influence teachers' motivation to teach inside the classroom. Salary and teachers rights, maternity leave and women's rights, and lack of teaching resources were the main issues that teachers related to students' achievement in Mathematics in Middle schools in Jeddah.

Regarding future studies, a few gaps were identified by this study and should be filled by future research. The first gap that this study found was that teachers holding a bachelor degree in Mathematics without a Diploma were more satisfied with their teaching efficacy and students' behaviour than teachers holding a bachelor degree in Mathematics with a Diploma in Education. This was surprising as I was expecting the opposite. Teachers with a Diploma in Education are preferred by the Ministry when it comes to priority in employment. They are well regarded as having knowledge in teaching and dealing with students' behaviour. However, this was not the case in this research study. It would be interesting if a future study examines the reasons behind these results and give more explanation to this case.

Another area for future studies would be teachers' right and salaries. The latest budget plan was so strict and the Ministry made a decision to cut 10% of teachers' salaries (<https://www.bloomberg.com/news/articles/2016-09-26/saudi-arabia-cancels-bonus-payment-for-state-employees-spa-says>). In this study, teachers were complaining that their salaries were low and they wanted to sue the Ministry

for not fully paying their past wages. I believe that after the recent cuts, teachers may think of new moves or might plan to leave their jobs. I think a research study on the impact of such decisions on teachers' motivation to remain in their career jobs is important to understand how teachers will cope with these new cuts.

Female teachers mentioned that maternity leave and their rights to drive a car was an obstacle. However, I believe my study did not do this issue justice and requires further investigations. I encourage researchers in the future to look into this matter in details. I believe research should be conducted to investigate how female teachers cope with these obstacles and the impacts on their social and career lives.

## References

- Abdullah, M., Uli, J. & Parasuraman, B. (2009). Job satisfaction among secondary school teachers. *Journal Kemanusiaan*, 13, 11-18.
- Abdan, A. A. (1991). An exploratory study of teaching English in the Saudi elementary public schools. *System*, 19(3), 253-266.
- Abu-Hilal, M. M. (2000). A structural model for predicting mathematics achievement: Its relation with anxiety and self-concept in mathematics. *Psychological Reports*, 86(3), 835-847.
- Agerfalk, P. (2013). Embracing diversity through mixed methods research. *European Journal of Information System*, 22, 251-256.
- Ahmed, W., van der Werf, G., Kuyper, H., & Minnaert, A. (2013). Emotions, self-regulated learning, and achievement in mathematics: A growth curve analysis. *Journal of educational psychology*, 105(1), 150.
- Akiri, A. A., & Ugborugbo, N. M. (2009). Analytic examination of teachers' career satisfaction in public secondary schools. *Stud Home Comm Sci*, 3(1), 51-56.
- Al-Agili, M., Mamat, M., Abdullah, L. & Abdul Maed, H. (2012) The factors influence students' achievement in mathematics: A Case for Libyan's Students. *World Applied Sciences Journal*, 17(9), 1224–1230.
- Al-Jabr, S. (1990). Social education in Saudi Arabia. *Social Education*. 54 (2), 109-120.

- Alkhateeb, H. M. (2001). Gender differences in mathematics achievement among high school students in the United Arab Emirates, 1991–2000. *School Science and Mathematics*, 101(1), 5-9.
- Al-Mohnnadi, A., Capel, S. (2007). Stress in physical education teachers in Qatar. *Social Psychology of Education*, 10 (1), 55-75.
- AL- Sadaawi, A. (2010). Saudi national assessment of educational progress (SNAEP). *International Journal of Education Policy and Leadership*, 5 (11), 1- 15.
- Al-Sadan, I. (2000). Educational assessment in Saudi Arabian school: challenges, solutions, and opportunities missed. *Assessment in Education*, 7 (1), 144-155.
- Al-Shabi, M. (2013). UML modelling for general educational services in KSA integrated with GIS. *International Journal of Computer Science Issues*, 10 (2), 272-279.
- Al Zahrani, Y. & Jones, K. (2012). Coverage of topics during a mathematics pedagogy module for undergraduate pre-service primary teachers. *Proceedings of the British Society for Research into Learning Mathematics*, 32(3), 7-12.
- Baki, R. (2004). Gender-segregated education in Saudi Arabia: its impact on social norms and the Saudi labour market. *Education Policy Analysis Archives*, 12 (28), 1-15.
- Baroody, A. J. (1987). *Children's mathematical thinking: A developmental framework for preschool, primary, and special education teachers*. Teachers College Press.

- Basak, R. & Ghosh, A. (2011). School environment and locus of control in relation to job satisfaction among school teachers- A study from Indian perspective. *Procedia Social and Behavioural Sciences*, 29, 1199-1208.
- Battista, M. (1994). Teacher beliefs and the reform movement in mathematics education. *Phi Delta Kappan*, 75(2), 462-470.
- Bishay, A. (1996). Teacher motivation and job satisfaction: a study employing the experience sampling method. *Journal of Undergraduate Sciences*, 3, 147–54.
- Bishop, A. J. (1996, June). How should mathematics teaching in modern societies relate to cultural values---some preliminary questions? *In Seventh Southeast Asian Conference on Mathematics Education*, Hanoi, Vietnam (Vol. 32).
- Bloom, P. (1986). Teacher job satisfaction: A framework for analysis. *Early Childhood Research Quarterly*, 1 (2), 167-183.
- Bogdan, R.C. & Biklen, S.K. (2003). *Qualitative Research for Education: An Introduction to Theory and Methods*. London: Allyn and Bacon.
- Bogler, R. (2001). The influence of leadership style on teacher job. *Educational Administration Quarterly*, 37 (5), 662-683.
- Bogler, R. (2002). Two profiles of school teachers: A discriminate analysis of job satisfaction. *Teaching and Teacher Education*, 18(6), 665-673.
- Boreham, N., Gray, P. & Blake, A. (2006). Job satisfaction among newly qualified teachers in Scotland. *Early Professional Learning Project*, 28 (2), 1-15.

- Bosire, J., Mondoh, H., & Barmao, A. (2008). Effect of streaming by gender on student achievement in mathematics in secondary schools in Kenya. *South African Journal of Education*, 28(4), 595-607.
- Buitendach, J.& Witte, H. (2005). Job insecurity, extrinsic and intrinsic Job satisfaction and affective organizational commitment of maintenance workers in a parastatal. *S.Afr.J.Bus. Manage.*, 36(2), 27-37.
- Brener, N., Billy, J., Grady, W. (2003). Assessment of factors affecting the validity of self-reported health-risk behaviour among adolescents: evidence from the scientific literature. *Journal of Adolescents Health*, 33, 436-457.
- Briones, E., Tabernero, C. & Arenas, A. (2010). Job satisfaction of secondary school teachers: effect of demographic and psycho-social factors. *Revista de Psicología del Trabajo y de las Organizaciones*, 26 (2), 115-122.
- Brunetti, G. J. (2001). Why do they teach? A study of job satisfaction among long-term high school teachers. *Teacher Education Quarterly*, 28 (3), 49-74.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117-148.
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71-81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], *Encyclopedia of mental health*. San Diego: Academic Press, 1998).
- Caprara, G. V., Barbaranelli, C., Borgogni, L., & Steca, P. (2003). Efficacy beliefs as determinants of teachers' job satisfaction. *Journal of Educational Psychology*, 95(4), 821.

- Caprara, G., Barbaranelli, C., Steca, P. & Malone, P. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology*, 44, 437-490.
- Carnoy, T., Beteille, I., Broddziak, P., Loyalka, & T. Luschei (2009). Teacher Education and Development Study in Mathematics (TEDS-M): *Do Countries Paying Teachers Higher Relative Salaries Have Higher Student Mathematics Achievement?* (IEA, Amsterdam, 2009).
- Central Department of statistics and information of Saudi Arabia, Demographic survey Retrieved 9 September 2013 from <http://www.cdsi.gov.sa/pdf/PopulationEstimates2010-2025-provinces.pdf> (Arabic).
- Chapman, O. (2010). Teachers' self-representations in teaching mathematics. *J Math Teacher Educ*, 13 (2), 289-294.
- Chaudhry, A. (2012). The relationship between occupational stress and job satisfaction: The Case of Pakistani Universities. *International Education Studies*, 5 (3), 212-221.
- Chhinh, S., Tabata, Y. (2003). Teacher factors and Mathematics achievement of Cambodian Urban primary school pupils. *Journal of International Development and Cooperation*, 9 (2), 29-41.
- Cohen, L. Manion, L. and Morrison, K. (2007). *Validity and reliability in Research Methods in Education*, London: Routledge.
- Coomber, R. (1997). Using the internet for survey research. *Social Research Online*, 2(2), 1-15.

- Creswell, J. (2003). *Research Design. Qualitative, Quantitative and Mixed Methods Approaches* (2nd ed.). Sage: Thousand Oaks.
- Creswell, J. W., Plano Clark, V. L., Gutmann, M. L. & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.) *Handbook of Mixed Methods in Social & Behavioural Research* (pp. 209-240). Thousand Oaks, CA: Sage Publications.
- DALE, R.R. (1969, 1971, 1974) *Mixed or Single-sex School* (London, Routledge & Kegan Paul).
- Demirtas, Z. (2010). Teachers' satisfaction levels. *Procedia Social and Behavioural Sciences*, 9, 1069-1073.
- Demir, İ., Kilic, S., & Depren, O. (2009). Factors Affecting Turkish Students' Achievement in Mathematics. Online Submission, 6(6).
- Denzin, N. & Lincoln, Y. S. (2002). *Collecting and Interpreting Qualitative Research Materials*. London: Sage publication.
- Dick, R.& Wagner, U. (2001). Stress and strain in teaching: A structural equation approach. *British Journal of Educational Psychology*, 71(2), 243-259.
- Dinham, S. & Scott, C. (1998). A three domain model of teacher and school executive satisfaction, *Journal of Educational Administration*, 36, 362-378.
- Driscoll, D., Yeboah, A., Salib, P., & Rupert, D. (2007). Merging qualitative and quantitative data in mixed methods research: how to and why not. *Ecological and Environmental Anthropology*, 3 (1), 19-28.

- Elyas, T. (2008). The attitude and the impact of the American English as a global language within the Saudi education system. *Novitas-Royal*, 2(1), 28-48.
- Elyas, T., & Picard, M. (2010). Saudi Arabian educational history: Impacts on English language teaching. *Education, Business and Society: Contemporary Middle Eastern Issues*, 3(2), 136-145.
- Ercikan, K., McCreith, T., & Lapointe, V. (2005). Factors associated with mathematics achievement and participation in advanced mathematics courses: An examination of gender differences from an international perspective. *School Science and Mathematics*, 105(1), 5-14.
- Evans, L. (1997). Addressing problems of conceptualization and construct validity in researching teachers job satisfaction. *Educational Research*, 39 (3), 319-331.
- Fadaak, T. (2011). Social policies and programmes for the eradication of poverty among poor female-headed households in Saudi society (Jeddah City).unpublished PhD thesis, University of Liverpool.
- Farooq, M. S., Chaudhry, A. H., Shafiq, M., & Berhanu, G. (2011). Factors affecting students' quality of academic performance: a case of secondary school level. *Journal of Quality and Technology Management*, 7(2), 1-14.
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 5(1), 80-92.
- Ferguson,k. Frost,L.& Hall,D. (2012). Predicting teacher anxiety, depression, and job satisfaction. *Journal of Teaching and Learning*, 8 (1), 27-42.

- Franek M, Vecera J (2008). Personal characteristics and job satisfaction. *E+M Econ. Manage*, 4: 63-76.
- Fraser, H., Draper, J. & Taleor, W. (1998). The quality of teachers' professional lives: teachers and job satisfaction. *Evaluation and Research in Education*, 12 (2), 61-71.
- Fricker, R. & Schonlau, M. (2002). Advantages and disadvantages of internet research surveys: evidence from the literature. *Field Methods*, 14 (4), 347-367.
- Fairchild, S., Tobias, R., Corcoran, S., Djukic, M., Kovner, C., & Noguera, P. (2012). White and Black teachers' job satisfaction: Does relational demography matter?. *Urban Education*, 47(1), 170-197.
- Gavora, P. (2010). Slovak pre-service teacher self-efficacy: theoretical and research considerations. *The New Educational Review*, 21 (2), 17-30.
- General Directorate of Education in Jeddah, Saudi Arabia, Retrieved 9 September 2013 from: <http://www.jedu.gov.sa/> (Arabic).
- Gkolia, A., Belias, D. & Koustelios, A. (2014). Teacher's job satisfaction and self-efficacy: A review. *European Scientific Journal*, 10 (22), 321-333.
- Grayson, J. & Alvarez, H. (2008). School climate factors relating to teacher burnout: A mediator model. *Teaching and Teacher Education*, 24 (5), 1349-1363.
- Hamdan, A. (2005). Women and education in Saudi Arabia: challenges and achievements. *International Education Journal*, 6 (1), 42-64.
- Han, J., & Yin, H. (2016). Teacher motivation: Definition, research development and implications for teachers. *Cogent Education*, 3(1), 1217819.

- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London, UK: Routledge.
- Hattie, J. (2003). Teachers make a difference: What is the research evidence? Keynote presentation at the Building Teacher Quality: The ACER Annual Conference, Melbourne, Australia.
- Hackman, D. A., & Farah, M. J. (2009). Socioeconomic status and the developing brain. *Trends in cognitive sciences*, 13(2), 65-73.
- Herrelko, J.M., Jefferies, K., & Robertson, A. (2009). The impact of single gender elementary school on mathematics classes in an urban school. *Scholarly partner ships edu*, 4(1), 5-19.
- Herbert K. (1978). *The New Book of Popular Science* Daribury, Connecticut: Grolier Inc.
- Hill, C., Rowan, B., & Ball, D. (2005) Effects of Teachers' Mathematical Knowledge for Teaching on Student Achievement. *American Educational Research Journal*, 42 (2), 361-406.
- Hosseinkhanzadeh, A. & Hosseinkhanzadeh, A. & Yeganeh, T. (2013). Investigate relationship between job satisfaction and organizational culture among teachers. *Procedia Social and Behavioural Sciences*, 84, 832-836.
- Howie, S. (2005). System- level evaluation: Language and other background factors affecting Mathematics achievement. *J Math Teacher Educ*, 35(2), 175-186.
- House, J. D. (2006). Mathematics beliefs and achievement of elementary school students in Japan and the United States: Results from the Third International

- Mathematics and Science Study. *The Journal of genetic psychology*, 167(1), 31-45.
- Huang, S. & Waxman, H. (2009). The association of school environment to student teachers' satisfaction and teaching commitment. *Teaching and Teacher Education*, 25 (2), 235-243.
- Imazeki, J. (2005). Teacher salaries and teachers attrition. *Economic of Education Review*, 24 (2), 431-449.
- Ingersoll, R. (2001). Teacher turnover, teacher shortages, and the organization of schools Seattle. *American Educational Research Journal*, 38, (3), 499–534.
- Ingersoll, R., & May, H. (2010). *The magnitude, destinations and determinants of Mathematics and science teacher turnover*. Philadelphia: University of Pennsylvania, Consortium for Policy Research in Education.
- Ingersoll, R., & Perda, D. (2010). *How high is teacher turnover and is it a problem?* Philadelphia: University of Pennsylvania, Consortium for Policy Research in Education.
- Ismail, M. R., & Atan, K. A. M. (2010). Mathematics in the Malay world prior to the arrival of western mathematics. *Procedia-Social and Behavioral Sciences*, 8, 729-734.
- Isotalo, J. (2001). *Basics of Statistics*. Finland: University of Tampere.
- Israel, G. (2009). Using the internet for survey research: a case study. *School of Library and Information Science*, 51(1), 5940-5954.

- Israel, G. D., Beaulieu, L. J. & Hartless, G. (2001). The influence of family and community social capital on educational attainment, *Rural Sociology*, 66(1), 43-68.
- Jick, T. (1997). Mixing qualitative and quantitative methods: triangulation in action. *Administrative Science Quarterly*, 24(2), 602-611.
- Jones, D. (2007). Making connections: the relationship between epistemology and research methods, *The Australian Community Psychologist*, 19(1), 19-27.
- Jonson, R. B., & Onwuegbuzie, A., (2004). Mixed methods research: a research paradigm whose time has come. *American Educational Research Association*, 33(7), 14-26.
- Kadijevich, D. (2008). TIMSS 2003: Relating dimensions of Mathematics attitude to Mathematics achievement. *Zbornik Instituta za pedagogika i strazivanje*, 40(2), 327-346.
- Karsli, M. & Iskender, H. (2009). To examine the effect of the motivation provided by the administration on the job satisfaction of teachers and their institutional commitment. *Procedia Social and Behavioural Sciences*, 1 (1), 2252-2257.
- Kayastha, R. & Kayastha, D. (2012). A study of job Satisfaction among Teachers, Higher Secondary School of Nepal. *International Journal of Evaluation and Research in Education*, 1 (1), 41-44.
- Kersaint, G. Lewis, J. Potter, R. & Meisels, G. (2007). Why teachers leave: Factors that influence retention and resignation. *Teaching and Teacher Education*, 23 (2), 775-794.

- Kingge, L. & Cope, M. (2006). Grounded visualization: integrating the analysis of qualitative and quantitative data through grounded theory and visualization. *Environment and Planning*, 28(4), 2021-2037.
- Klassen, R. & Chiu, M. (2010). Effects on teachers' self-efficacy and job satisfaction: teacher gender, years of experience, and job stress. *Journal of Education Psychology*, 102 (3), 741-756.
- Klassen, R., Usher, E., & Bong, M. (2010). Teachers' collective efficacy, job satisfaction, and job stress in cross-cultural context. *The Journal of Experimental Education*, 7 (8), 464 – 486.
- Knapp, H. & Kirk, S. (2003). Using pencil paper, internet and touch-tone phones for self-administered surveys: does methodology matter? *Computer in Human Behaviour*, 19(13), 117-134.
- Lal, R., Shergill, S. (2012). A comparative study of job satisfaction and attitude towards education among male and female teachers of degree colleges. *International Journal of Marketing, Financial, Services & Management Research*, 1(1), 57-65.
- Lam, B. & Yan, H. (2011). Beginning teachers' job satisfaction: the impact of school-based factors. *Teacher Development*, 15 (3), 333-348.
- Lee, M. (2006). What makes a difference between two schools? Teacher job satisfaction and educational outcomes. *International Education Journal*, 7 (5), 642-650.
- Lee, V., Dedrick, R., & Smith, J. (1991). The effect of social organization of schools on teachers' efficacy and satisfaction. *Sociology of Education*, 64(3), 190–208.

- Lee, V. & Loeb, S. (2000). School size in Chicago elementary schools: Effects on teachers' attitudes and students' achievement. *American Educational Research Journal*, 37(1), 3-31.
- Lent, R., Nota, L., Soresi, S., Ginevra, M., Duffy, R., & Brown, S. (2011). Predicting the job and life satisfaction of Italian teachers: test of a social cognitive model. *Journal of Vocational Behaviour*, 79 (1), 91-97.
- Lepper, M. (1988). Motivational considerations in the study of instruction. *Cognition and Instruction*, 5, 289-309.
- Looney, R. (1992). Real or illusory growth in oil-based economy government expenditures and private sector investment in Saudi Arabia, *World Development*, 20 (9), 1367-1375.
- Loughran, J.J. (2010). *What Expert Teachers Do: Enhancing professional knowledge for classroom practice*, Australia : Allen & Unwin.
- Mansour, N. (2010). Exploring science teachers' beliefs, intentions and practices about teaching and learning Science-Technology-Society (STS) issues. *Eurasian Journal of Physics and Chemistry*, 2(2):123-157.
- Mbugua, Z. K., Kibet, K., Muthaa, G. M., & Nkonke, G. R. (2012). Factors contributing to students' poor performance in mathematics at Kenya certificate of secondary education in Kenya: A case of Baringo County, Kenya.
- Mercer, D. & Evans, B. (1991). Professional myopia: job satisfaction and the management of teachers. *School Organization*, 11(3), 291-300.

- Michaelowa, K. (2002). Teacher job satisfaction, student achievement, and the cost of primary education in francophone Sub-Saharan Africa. *World Development*, 29 (10), 1699-1716.
- Mau, W., Ellsworth, R., & Hawley, D. (2008). Job satisfaction and career persistence of beginning teachers. *International Journal of Educational Management*, 22(1), 48-61.
- Mohamed, L., & Waheed, H. (2011). Secondary students' attitude towards mathematics in a selected school of Maldives. *International Journal of Humanities and Social Science*, 1(15), 277-281.
- Merriam, S.B. (2002). *Qualitative Research in Practice: examples for discussion and analysis*. San Francisco: Jossey-Bass.
- Michaelowa, K. (2002). Teacher job satisfaction, student achievement, and the cost of primary education in francophone Sub-Saharan Africa. *World Development*, 29 (10), 1699-1716.
- Middleton, J. & Spanias, P. (1999). Motivation for Achievement in Mathematics: Findings, Generalizations, and Criticisms of the Research. *Journal for Research in Mathematics Education*, 30(1), 65-88.
- Miller, S.& Gatta, J. (2006). The use of mixed methods models and designs in the human sciences: Problems and prospects. *Quality & Quantity*, 40, 595-610.
- Moore, C. (2012). The role of school environment in teacher dissatisfaction among U.S public school teachers. *Sage*, 35(2), 175-186.

- Moran, M. & Hoy, A. (2001). Teacher efficacy: capturing an elusive construct. *Teaching and Teacher Education*, 17 (7), 783-805.
- Moran, M. & Hoy, A. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education*, 23 (6), 944-956.
- Morgan, M. & O'Leary, M. (2004). A study of factors associated with the job satisfaction of beginning teachers. *The Irish Journal of Education*, 35, 73-86.
- Mullis, I. V. S., Martin, M. O., Foy, P. & Arora, A. (2012). *TIMSS 2011 international mathematics report: Findings from IEA's Trends in International Mathematics and Science Study at the fourth and eighth grades*. Boston, MA: Boston College.
- Mullis, I. V. S., Martin, M. O., Gonzalez, E. J. & Chrostowski, S. J. (2004). *TIMSS 2003 international mathematics report: Findings from IEA's Trends in International Mathematics and Science Study at the fourth and eighth grades*. Boston, MA: Boston College.
- Murnane, R. Olsen, R. (1990). The Effects of Salaries and Opportunity Costs on Length of Stay in Teaching: Evidence from North Carolina. *The Journal of Human Resources*, 25 (1), 106-124.
- Murshidi, R., Konting, M. M., Elias, H., & Fooi, F. S. (2006). Sense of efficacy among beginning teachers in Sarawak. *Teaching Education*, 17 (3), 265-275.
- Nathan, J., & Febey, K. (2001). Smaller, Safer, Saner, Successful Schools. Retrieved from ERIC, ED455680

- Nias, J. (1981). Teacher satisfaction and dissatisfaction: Herzberg's 'two-factor' hypothesis revisited. *British Journal of Sociology of Education*, 2(3), 235-245.
- Nicolaidou, M. and Philippou, G. (2003). Attitudes towards mathematics, self-efficacy and achievement in problem solving. *European Research in Mathematics Education III*, M. A. Mariotti, Ed., pp. 1–11, University of Pisa, Pisa, Italy.
- Ninomlya, A., Okata, T. (1990). A critical analysis of job-satisfied teachers in Japan. *Comparative Education*, 26(2), 249-257.
- Norton, M. & Kelly, L. (1997). *Resource allocation: Managing money and people, eye on education*. Larchmont: New York.
- Nye, B., Konstantopoulos, S. & Hedges, L. (2004). How large are teacher effects?. *Educational Evaluation and Policy Analysis*, 26 (3), 237-257.
- Ololube, N. P. (2006). Teacher job satisfaction and motivation for school effectiveness: An assessment. Retrieved from ERIC, 496539.
- Omar, H. A. (1988). The shortage of male Saudi teachers at the intermediate school level in the southern region of Saudi Arabia. *Journal of Educational Development*, 15 (4), 230-251.
- Onsman, A. (2011). It is better to light a candle than to ban the darkness: government led academic development in Saudi Arabian universities. *Higher Education*, 62 (4), 519-532.

- Oplatka, I. & Mimon, R. (2008). Women principals' conceptions of job satisfaction and dissatisfaction: an alternative view? *International Journal of Leadership in Education*, 11 (2), 135-153.
- Ostrolf, C. (1992). The relationship between satisfaction, attitudes, and performance: An organizational level analysis. *Journal of Applied Psychology*, 77(6), 963-974.
- ÖZEN, Y. (2013). Relationships of Various Social Psychological Variables with Primary Teachers' Job Satisfaction. *Online Journal of Counseling & Education*, 2(3).
- Ozturk, M. A., & Singh, K. (2006). Direct and indirect effects of socioeconomic status and previous mathematics achievement on high school advanced mathematics course taking. *The Mathematics Educator*, 16(2).
- Papanastasiou, C. (2002). Effects of Background and School Factors on the Mathematics Achievement. *Educational Research and Evaluation: An International Journal on Theory and Practice*, 8 (1), 55-70.
- Ingersoll, R., & Perda, D. (2009). The mathematics and science teacher shortage: Fact and myth.
- Perry, L. B., & McConney, A. (2010). Does the SES of the school matter? An examination of socioeconomic status and student achievement using PISA 2003. *Teachers College Record*, 112(4), 1137-1162.
- Perše, T. V., Kozina, A., & Leban, T. R. (2011). Negative school factors and their influence on math and science achievement in TIMSS 2003. *Educational Studies*, 37(3), 265-276.

- Pustjens, H., Van Damme, J., & De Munter, A. (2008). Mathematics participation and mathematics achievement across secondary school: The role of gender. *Sex Roles*, 59(7-8), 568-585.
- Poulou, M. (2007). Personal teaching efficacy and its sources: student teachers' perceptions. *Educational Psychology*, 27(2), 191-218
- Rahman, M.& Alhaisoni, E. (2013). Teaching English in Saudi Arabia: prospective and challenges. *Academic Research International*, 4 (1), 112-118.
- Randel, B., Stevenson, H. W., & Witruk, E. (2000). Attitudes, beliefs, and mathematics achievement of German and Japanese high school students. *International Journal of Behavioral Development*, 24(2), 190-198.
- Reinard, J. C. (2006). *Communication Research Statistics*. Sage.
- Richardson, P.& Watt, H. (2000). Who Chooses Teaching and Why? Profiling Characteristics and Motivations Across Three Australian Universities. *Asia-Pacific Journal of Teacher Education*, 34(1), 27-56.
- Ritvanen, T. I. I. N. A., Louhevaara, V., Helin, P., Halonen, T., & Hanninen, O. (2003). Psychophysiological stress in high school teachers. *International Journal of Occupational Medicine and Environmental Health*, 16(3), 255-264.
- Rosa, V., Alessandri, G. (2009). Teachers' efficacy : promoting job commitment and job satisfaction . *Prevention Today*, 5 (4), 73-84.
- Saracho, O. (2006). The relationship between Mathematics teachers' and students' cognitive styles and the students' academic achievement. *Early child Development and care*, 137(1), 21-29.

- Sargent, T., Hannum, E. (2005). Keeping Teachers Happy: Job Satisfaction among Primary School Teachers in Rural China. *Comparative Education Review*, 49(2), 173-204.
- Saritas, T., & Akdemir, O. (2009). Identifying factors affecting the mathematics achievement of students for better instructional design. *International Journal of Instructional Technology and distance learning*, 6, 26.
- Schwarzer, R. & Hallum, S. (2008). Perceived Teacher Self-Efficacy as a Predictor of Job Stress and Burnout: Mediation Analyses. *Applied Psychology: An international Review*, 57 (2), 152–171.
- Schneider, M. (2002). Do School Facilities Affect Academic Outcomes?.
- Schneider, F. W., & Coutts, L. M. (1982). The high school environment: A comparison of coeducational and single-sex schools. *Journal of Educational Psychology*, 74(6), 898.
- Schiller, K. S., Khmelkov, V. T., & Wang, X. Q. (2002). Economic development and the effects of family characteristics on mathematics achievement. *Journal of Marriage and Family*, 64(3), 730-742.
- Seah, W. T. & Bishop, A.J. (2002). *Values, Mathematics and Society: Making The Connections*. In C. Vale & J. Roumeliotis & J. Horwood (Eds.), *Valuing mathematics*.
- Shan, M. (1998). Professional commitment and satisfaction among teachers in urban middle schools. *The Journal of Educational Research*, 92, 67 – 73.

- Shen, C., & Tam, H. P. (2008). The paradoxical relationship between student achievement and self-perception: A cross-national analysis based on three waves of TIMSS data. *Educational Research and Evaluation*, 14(1), 87-100.
- Shin, J., Lee, H., & Kim, Y. (2009). Student and school factors affecting mathematics achievement: International comparisons between Korea, Japan and the USA. *School Psychology International*, 30(5), 520-537.
- Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22.
- Simpson, S. (2011). Demystifying the research process: mixed methods. *Demystifying Research*, 37(1), 28-29.
- Singh, R. & Rawat, H. (2010). The Study Of Factors Affecting the Satisfaction Level of Private School Teachers' in Haryana. *Assessment in Education*, 1 (4), 188-197.
- Skaalvik, E. & Skaalvik, S. (2009). Does school context matter? Relations with teacher burnout and job satisfaction. *Teaching and Teacher Education*, 25(3), 518-524.
- Skaalvik, E. & Skaalvik, S. (2011). Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and emotional exhaustion. *Teaching and Teacher Education*, 27, 1029-1038.
- Somech, A. & Zahavy, A. (2000). Understanding extra-role behaviour in schools: the relationships between job satisfactions, sense of efficacy, and teachers' extra-role behaviour. *Teaching and Teacher Education*, 16 (5), 649-659.

- Stake, R. (2002). Teachers Conceptualizing Student Achievement. *Teachers and Teaching: Theory and Practice*, 8 (3), 303-312.
- Stearns, E., Banerjee, N., Mickelson, R., & Moller, S. (2014). Collective pedagogical teacher culture, teacher-student ethno-racial mismatch, and teacher job satisfaction. *Social Science Research*, 45, 56-72.
- Steinmetz, S., Bianchi, A., Tijdens, K., & Biffignandi, S. (2014). Improving web survey quality potentials and constraints of propensity score adjustment. *Social Science Research*, 45, 56-72.
- Stewart, S. (2003). Casting the net: Using the internet for survey research. *British Journal of Midwifery*, 11(9), 543-15.
- Tasdan, M., Tiryaki, E. (2008). Comparison of the level of job satisfaction between at private and state primary school teachers. *Education and Science*, 33(147), 54-192.
- Taylor, D. & Tashakkori, A. (1995). Decision participation and school climate as predictors of job satisfaction and teachers' sense of efficacy. *Journal of Experimental Education*, 63(3), 217-230.
- Tella, A. (2008). Teacher Variables As Predictors of Academic Achievement of Primary School Pupils Mathematics. *International Electronic Journal of Elementary Education*, 1 (1), 16-33.
- Tickle, B., Chang, M. & Kim, S. (2011). Administrative support and its mediating effect on US public school teachers. *Teaching and Teacher Education*, 27 (2), 342-349.

- Tirosh, D. (2009). What do we know about mathematics teacher education? What evidence do we have? What comes next? *J Math Teacher Educ*, 12 (3), 83-87.
- Treputtarat, S. & Tayiam, S. (2014). School climate affecting job satisfaction of teachers in primary education, KhonKaen, Thailand. *Procedia Social and Behavioural Sciences*, 116, 996-1000.
- Usop, A., Askandar, D. & Kadtong, A. (2013). Work performance and job satisfaction among teachers. *International Journal of Humanities and Social Science*, 3 (5), 245-252.
- Uline, C., & Tschannen-Moran, M. (2008). The walls speak: The interplay of quality facilities, school climate, and student achievement. *Journal of Educational Administration*, 46(1), 55-73.
- Veldman, I., Tartwijk, J., Brekelmans, M., & Wubbels, T. (2013). Job satisfaction and teacher-student relationships across the teaching career: four case studies. *Teaching and Teacher Education*, 32, 55-65.
- Walshaw, M., Anthony, G. (2009). *Effective Pedagogy in Mathematics*. Belley, France: International Academy of Education.
- Walshaw, M. (2012). Teachers knowledge as fundamental to effective teaching practice. *Journal of Math Teacher Education*, 15 (1), 181-185.
- Watson, A. (2008) Developing and deepening mathematical knowledge in teaching: being and knowing. Paper presented in the Mathematical Knowledge in Teaching seminar series, Loughborough, UK, March. Retrieved 15 December 2012 from [www.mkit.maths-ed.org.uk/seminar5.html](http://www.mkit.maths-ed.org.uk/seminar5.html).

- Watt, H., Richardson, P., Klusmann, U., Kunter, M., Beyer, B., Trautwein, U., & Baumert, J. (2012). Motivations for choosing teaching as a career: An international comparison using the FIT-Choice scale. *Teaching and Teacher Education*, 28(6), 791 -805.
- Wang, H., Hall, N. C., & Rahimi, S. (2015). Self-efficacy and causal attributions in teachers: Effects on burnout, job satisfaction, illness, and quitting intentions. *Teaching and Teacher Education*, 47, 120-130.
- Murage, W. S., & Kibrra, W. L. (2014). Teachers related factors that influence secondary school teachers job satisfaction levels in public secondary schools in Mombasa district, Kenya. *Journal of Education Research and Behavioral Sciences*, 3(6), 148-153.
- Weiss, E. (1997). Perceived workplace conditions and first-year teachers' morale, career choice commitment, and planned retention: a secondary analysis. *Teaching and Teacher Education*, 15(8), 861-879.
- Yin, R.K. (2003). *Case Study Research: Design and Methods* (3rd ed.). Thousand Oaks: Sage Publication.
- Yavuz, M. (2009). Factors that Affect Mathematics-Science (MS) Scores in the Secondary Education Institutional Exam: An Application of Structural Equation Modeling. *Educational Sciences: Theory and Practice*, 9(3), 1557-1572.
- Zembylas, M. & Papanastasiou, E. (2004). Job satisfaction among school teachers in Cyprus. *Journal of Educational Administration*, 42 (3), 357 - 374.

Zhang, Y. (1999). Using the internet for survey research: a case study. *School of Library and Information Science*, 51(1), 57-68.

## **Appendix A**

# **Teacher's Survey**

**Mathematics Teacher's Job Satisfaction in Middle  
School in Jeddah, Saudi Arabia**

2014

Khaled Mohammad Alzhrani

# CONSENT FORM

## Teachers

Project: Mathematics Teacher's Job Satisfaction in Middle School in Jeddah, Saudi Arabia

Chief Investigator: Khaled Alzhrani.

I have been asked to take part in the Monash University research project specified above. I have read and understood the Explanatory Statement and I hereby consent to participate in this project.

I consent to the following:	Yes	No
To take part in a survey	<input type="checkbox"/>	<input type="checkbox"/>
I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalised or disadvantaged in any way.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that any data that the researcher extracts from the survey is for use in reports or published findings will not, under any circumstances, contain names or identifying characteristics without my signed consent below	<input type="checkbox"/>	<input type="checkbox"/>
I understand that no information I have provided that could lead to the identification of any other individual will be disclosed in any reports on the project, or to any other party	<input type="checkbox"/>	<input type="checkbox"/>
I understand that data will be kept in secure storage and accessible to the researcher. I also understand that the data will be destroyed after a 5 year period unless I consent to it being used in future research.	<input type="checkbox"/>	<input type="checkbox"/>

## **A- Demographic Survey**

**-From Q1 to Q10 please complete the following information by circling the appropriate answer.**

**1- Grade level you are now teaching:**

- a. 1<sup>st</sup> Intermediate
- b. 2<sup>nd</sup> Intermediate
- d. 3<sup>rd</sup> Intermediate

**2- Gender:**

- a. M
- b. F

**3- Years teaching experience at Intermediate level.**

- a. 1-5 years
- b. 6-10 years
- c. 11 - 15 years
- d. More than 15 years

**4- Type of school building you teach in**

- a- Rented building
- b- Government building

**5- Your school location is in**

- a. East
- b. West
- c. Central
- d. South
- e. North

**6- Highest degree earned:**

- a. BA+ diploma in education   b. BA without diploma in education   c. Master  
d. Doctorate

**7-If you have a choice; would you choose to be the one to teach Mathematics to your students?**

- a. Definitely no                      b. Not sure                      c. Definitely yes

**8-Compared to the minimum amount of time I should spend teaching Mathematics, I spend:**

- a. A lot less                      b. A bit less                      c. That exact amount  
d. A bit more                      e. A lot more

**9- Please rate how you view your own effectiveness as a teacher of Intermediate Mathematics:**

a. Superior- One of the most outstanding teachers of Intermediate Mathematics in the school; a master teacher of Intermediate Mathematics.

b. Above average                      c. Average                      d. Below Average

e. Low- One of the least effective teachers of Intermediate Mathematics, in need of professional improvement in this area

**10- Number of Mathematics courses (estimate the number of courses NOT credit):**

- a. 1-5 courses                      b. 6-10 courses                      d. More than 11 courses

**From section B to E please chose the appropriate answer:**

## **B- Administrative Support.**

N	Items	Not satisfied at all	Not satisfied	Neutral	Satisfied	Very satisfied
AS11	The level of respect given to you from your administrators.					
AS12	The amount of recognition you received for your efforts from your administers in school.					
AS13	The degree of communication from your administers					
AS14	The support you received from administrators in the school.					
AS15	The degree of decision-making in terms of the authority you were allowed in your job as a teacher.					
AS16	The relationship you have with your principal and assistant principal					
AS17	The administration in your school communicates its policies well.					
AS18	The amount of time administrators spent in your classroom observing or participating in instructional activities.					
AS19	The overall level of satisfaction with your administrators					
20-	Could you please provide more explanation to your choice in item AS19					

## C- Workplace atmosphere

N	Items	Not satisfied at all	Not satisfied	Neutral	Satisfied	Very satisfied
WA21	The relationship you have with colleagues.					
WA22	The level of professionalism exhibited among colleagues in your building.					
WA23	The cleanliness and level of general maintenance of your building.					
WA24	The use of space in your building.					
WA25	The level of stress you experienced in relation to your building.					
WA26	The degree of similar interests you share with your colleagues at school.					
WA27	The degree to which your co-workers stimulate you to do better work.					
WA28	The availability of teaching materials and equipment to use inside the classroom.					
WA29	The quality of the school's ITC, labs, and library.					
WA30	The overall level of satisfaction with your workplace atmosphere.					
31-	Could you please provide more explanation to your choice in item WA30?					

## D- Teaching Efficacy

N	Items	Not satisfied at all	Not satisfied	Neutral	Satisfied	Very satisfied
TE32	The training you received to teach the content in the subject area you were required to teach.					
TE33	Your ability to answer students' questions in regard to the content you were required to teach.					
TE34	Your capacity to influence student achievement (i.e. higher test scores).					
TE35	The level of your satisfaction with the quality of the assessment and its ability to measure the student's achievement in the subject.					
TE36	The flexibility you have to be creative in your teaching approach.					
TE37	The control you have over selecting student learning activities in your classroom.					
TE38	The degree teaching may provide you with a good opportunity for advancement.					
TE39	The degree of flexibility you have to select materials to use in your classroom.					
TE40	Your ability to complete the instructional duties that were assigned to you.					
TE41	Your level of understanding of the curriculum for which you are accountable.					
TE42	The overall level of satisfaction with your teaching efficacy					
43-	Could you please provide more explanation to your choice in item TE43?					

## E-Students' Behaviour

N	Items	Not satisfied at all	Not satisfied	Neutral	Satisfied	Very satisfied
SB44	The degree of flexibility you have in setting the standards of behaviour for students within your classroom.					
SB45	Student's responses to you as a teacher.					
SB46	Your students concerns with performing well in assignments.					
SB47	The degree to which students willingly engage in instructional activities in your classroom.					
SB48	The relationship you have with students in your classroom.					
SB49	The degree of respect and good work habits practiced by students in your classroom.					
SB50	The extent to which students are motivated to learn.					
SB51	The degree of satisfaction with students' responsibility and discipline in your classroom.					
SB52	The overall level of satisfaction with your students' behaviour.					
53-	Could you please provide more explanation to your choice in item SB52?					

**54- Do you think that your level of job satisfaction affects your students' achievement in Mathematics?**

**a. Yes**

**b. No**

**Reasons:**

.....

**Thank you very much for your participation.**

# Appendix B

## EXPLANATORY STATEMENT

### Teacher

Project: Mathematics Teacher's Job Satisfaction in Middle School in Jeddah, Saudi Arabia

**Chief Investigator's name:**

**Khaled Alzhrani**

**Department of Education**

[REDACTED]

[REDACTED]

My name is Khaled Alzhrani and I am conducting a research project with Dr. David Zyngier and Dr. Hazel Tan in the Department of Education towards a PhD in Education at Monash University. This means that I will be writing a thesis which is the equivalent of a 300 page book.

You are invited to take part in this study. Please read this Explanatory Statement in full before deciding whether or not to participate in this research. If you would like further information regarding any aspect of this project, you are encouraged to contact the researchers via the email addresses listed above.

#### **The aim/purpose of the research**

My research examines "Mathematics Teacher's Job Satisfaction in Middle School in Jeddah, Saudi Arabia"

#### **Possible benefits**

By participating in this research you will not gain any direct benefit. The researcher will send to you a summary that might be a useful source for better learning practices.

#### **What does the research involve?**

The study involves an online survey conducted once

#### **How much time will the research take?**

You will complete an online survey.

#### **Why were you chosen for this research?**

You are chosen because you are a Mathematics teacher that has been teaching Mathematics for 1-20 years and teaching in public Middle schools.

#### **Risks to participants**

##### **Inconvenience/discomfort**

It is unlikely that participation in this study will cause inconvenience or discomfort. The survey completion will be at a time convenient to you. If any issues are raised that you find uncomfortable, you may choose not to respond or complete the survey.

##### **Payment**

There is no payment or reward offered for your participation.

##### **You can withdraw from the research**

Being in this study is voluntary and you are under no obligation to consent to participation. However, if you do consent to participate, you may withdraw from further participation at any stage.

### **Confidentiality**

The researchers will not identify or name the participants and schools in any publications or presentations coming from the research.

### **Storage of data**

Data collected will be stored in accordance with Monash University regulations, kept on University premises, in a locked filing cabinet for 5 years. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report.

### **Use of data for other purposes**

The data collected in this research may be used for other purposes such as writing an article in the area of Mathematics teaching. The data may be used in a seminar presentation in the related areas.

### **Results**

A summary of the research findings will be returned to participants on completion of the study

### **Complaints**

Should you have any concerns or complaints about the conduct of the project, you are welcome to contact the

Mr. Bakhiet Aida A

[REDACTED]

[REDACTED]

Thank you,

Khaled Alzhrani

[REDACTED]

**Chief Investigator**

Dr. David Zyngier

**Co-Investigator**

Dr. Hazel Tan