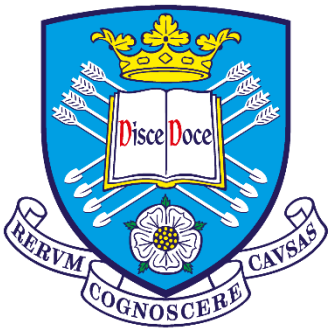

The University Of Sheffield.

CURRICULUM INNOVATION IN SELECTED SAUDI ARABIA PUBLIC SECONDARY SCHOOLS: THE MULTI-STAKEHOLDER EXPERIENCE OF THE TATWEER PROJECT

THESIS SUBMITTED IN PARTIAL FULFILMENT FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN EDUCATION

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Abstract

Research Topic: *Curriculum Innovation in Selected Saudi Arabia Public Secondary Schools: The Multi-Stakeholder Experience of the Tatweer Project*

The development and implementation of innovative curriculum projects continues to be a prominent feature in the education enterprise. The primary aim of this qualitative study was to develop an in-depth understanding of the implementation of the Tatweer Project in five selected public secondary schools in Saudi Arabia. The project is an innovative education reform initiative that aimed to improve the quality of teaching and learning in public secondary schools across the country. Under the Tatweer Project, reforms were made in the following areas: school curriculum development, teacher training, learning environments and extra-curriculum activities.

The study made use of a combination of semi-structured interviews and focus-group discussions to elicit the views and experiences of teachers, students, school heads and policy-makers who participated in the implementation of the project. Data were analysed manually using the thematic analysis method (Braun and Clarke, 2006; Wellington, 2015).

The study findings indicate that the implementation of the Tatweer Project took place in two phases and each phase was affected by a number of problems and challenges, which made it difficult for the innovation to get institutionalised. The study explores the factors that affected the implementation of the curriculum innovation and suggests changes that may help to achieve a successful implementation of similar projects in future. In particular, the study confirmed the need to engage all stakeholders in the curriculum design and implementation process as well as the need for the provision of effective leadership, training and adequate technical support to the primary implementers, that is, the teachers and school heads. Although the study findings cannot be generalised widely due to the scope of the study, it is important to appreciate that some useful insights that could be useful in terms of guiding effective curriculum implementation are discussed. The study recommends, among other things, the need to ensure that all key stakeholders should be involved in the whole process of planning and implementing a curriculum innovation given that effective curriculum change should be viewed as a shared responsibility. In the same vein, adequate funding should be made available.

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Abbreviations

Abbreviation	Meaning
TP	The King Abdulla Bin-Abdul Aziz Public Education Development Project Tatweer
MoE	Ministry of education
TSS	Tatweer Smart Schools
IMF	International Monetary Fund
T4edu	The Tatweer Company for Educational Services
TBC	The Tatweer Buildings Company
TTC	The Tatweer Educational Transportation Services
TET	The Tatweer Educational Technologies
TU	Tatweer Units
FT	First Teachers
SBC	School-based curriculum
SBM	School-based management
MSCRP	Maths and Science Curriculum Reform Project

CHAPTER 1: INTRODUCTION

1.1 Introduction

The quest for a responsive curriculum that has a good fit with national aspirations is an often elusive undertaking, as the implementation of the curriculum at the chalk face is often very different from the curriculum as intended at the policy-making level. The study presented in this research sought to interrogate a curriculum innovation, the Tatweer Project (TP) that was implemented in Saudi Arabia in an effort to qualitatively improve the curriculum in Saudi Arabia's public secondary schools. The study, with its desire of foregrounding the main stakeholders' experiences, adopted a qualitative approach to bring to light the experiences of the various stakeholders from their individual vantage points.

The study itself is presented in seven chapters, and provides a critique of how the various stakeholders perceived the TP. The first chapter is an introduction, presenting an holistic overview of the study. The second chapter gives a clear picture of the study context and details of the TP while the third chapter is the literature review and presents the theoretical framework underpinning the study. The methodology, and methods, including how I shaped my study, is presented in chapter four. Chapter five presents the primary data generated from the study. This was done in a clear and concise manner to facilitate transparent interpretation and analysis. Four data sets are presented, and this includes data from the students, teachers, school heads and policy-makers from the Ministry of Education (MoE). Chapter six presents the discussion of key themes that emerged from the study. The last chapter is the conclusion of my study and proposes ways of improving the effective implementation of similar curriculum innovations in future. Areas for possible future research are also outlined.

1.2 Study Background

Saudi Arabia is a developing nation, one of the leading oil-producing countries in the Middle East. However, as was expected by the International Monetary Fund (IMF) and the World Bank (Financial Sector Assessment Program, 2013) the financial benefits of oil, which are currently the country's main source of revenue, have been decreasing and cannot be relied upon in the future. Therefore, Saudi Arabia is working seriously and concertedly on creating new ways of generating revenue.

Achieving such a goal in part requires the government to improve the quality of education. Thus, the Saudi Arabian government has had to invest a considerable amount of financial resources to improve the education system. However, it has recently realised that the education sector needs reform from the grass-roots level. This requires changing the education system at the school level in order to build both the theoretical and practical foundations needed for both social and economic development (Lindsey, 2010). To do this, the government has attempted to reform and update the school curriculum to overcome a number of emerging problems. While some of these problems have been perceived to be internal, for example, lack of creativity, learning by memorising concepts instead of application, and a lack of a modern science component in the curriculum, others have been associated with external pressure. This external pressure has been mostly on the criticism that the Saudi education system has put a lot of emphasis on religious subjects and on how this has allegedly created religious intolerance in the minds of students towards other religions (Rugh, 2002). The Saudi government recognised the concerns expressed by Western countries, especially after the 9/11 attack on the World Trade Centre in New York. In addition, the Saudi government realised that teaching too many religious subjects might have slowed down their development because it created graduates who were not work-ready and it suppressed civil education (Baki, 2004).

To respond to these problems, the government designed the largest reform project of its kind in the Middle East, called the 'Tatweer', which is an Arabic word meaning progress and development. This study investigates how the Tatweer Project (TP) may have improved the secondary school curriculum from the experiences of the key stakeholders; teachers, school heads, students and policy-makers from the MoE.

1.3 The Significance of the Study

There is a lack of evidence about how well education policies work and match the practices at the implementation level in the Middle Eastern region in general and in Saudi Arabia in particular (Aljughaiman andGrigorenko, 2013 ; Rugh, 2002). Curriculum change is a complex phenomenon that involves multiple actors interacting with each other. At present, Saudi Arabia follows a top-down, one-way curriculum development model highly criticised for being technical, less inclusive and very structured (Macdonald, 2003; Kelly, 2009). Very few studies have been conducted on how this complexity works in Saudi Arabia (Elyas andPicard, 2013). Research on curriculum change, especially the perceptions of the people who deal with teaching on a daily basis

in Saudi Arabia about the changes and their effectiveness, is limited. Although there have been studies focusing on many features of the curriculum since the 1980s (i.e Al-Ajroush, 1981; Karem, Osman andMeerah, 2011), these studies do not cover the most recent curriculum change inherent in the TP. Since 2007, new educational infrastructures and policies have been introduced, targeting the growing national interest and social diversity. Curriculum changes have taken place at different levels and different scales but policy making and its implementation has not been well explored in Saudi Arabia (Aljughaiman andGrigorenko 2013). Even though there were a few studies considering Tatweer, they do not address curriculum issues in sufficient details. Instead, they focused more on the administrative aspects of the Tatweer (e.g. (Alyami, 2014; Al Alhareth, Al Dighrir and Al Alhareth, 2015).

The difficulties of curriculum implementation and the mismatch between the developers' intentions and the curriculum in practice are common (Fullan, 1972). This research focuses on the most recent attempt to change the public secondary school curriculum through the TP (Tatweer, 2010). As the programme has now been implemented across the country, my study investigates in part how successful the TP was relative to its stated objectives and whether it met the implementers' expectations and developers' intentions. This is against the background of apprehensions by Al-Essa (2009) who contends that there was no sign of improvement in secondary education in Saudi Arabia ,notwithstanding the highly publicised efforts of the TP. Therefore, one of the aims of this study is to investigate the veracity of this claim.

Curriculum change is a politically motivated multi-stakeholder enterprise. If curriculum development were made open and inclusive, in such a way that different stakeholders could include their voices and views of the world, curriculum content might be improved considerably (Kelly, 2009; Stenhouse, 1975). In the case of Saudi Arabia, the MoE controls the curriculum and publishes textbooks (a structured set of books for each grade and each subject) which the Ministry distributes to all public schools across the country. The TP aimed to solve extant identified problems in curriculum practice but the extent to which these problems were addressed is still to be established. In public schools, the textbooks are used as the main sources of knowledge, and the role of teachers is simply to transfer the knowledge in these books to their students. Teaching anything outside of these books is illegal and can be taken very seriously, such as a warning letter from a school head teacher or an interrogation from the region supervisor (Rugh, 2002).

Teachers can be expelled from the profession if they are found to be teaching other material outside the mandated textbook content. Studies have shown that this method is ineffective because it limits creativity (Macdonald, 2003), promotes rote learning - by memorising instead of application (Saudi-Gazzette, 2015) and does not encourage critical thinking (Kelly, 2009). This study intends to explore whether the TP brought any solution to these problems and how it could be re-visited to produce more desired results.

1.4 Aim of the Study

The aim of this study is to interrogate how the new curriculum was implemented and what were the consequences for secondary schools in Saudi Arabia (from the experience of some key stakeholders such as policy-makers, school heads, teachers and students).
This study is also designed to explore the view points of the stakeholders about how curriculum innovation is designed and implemented in order to identify any problems, challenges and opportunities in the implementation of the new curriculum.

1.5 Objectives of the Study

The objectives of the study are to:

- Explore the "Tatweer" curriculum change process and how the Tatweer enhanced or limited the teaching and learning experience in the public secondary schools in Saudi Arabia.
- Investigate the issues in Tatweer implementation from the perspectives of the most important internal stakeholders such as teachers, school heads, policymakers and students.
- Theorise the curriculum change process of Saudi Arabia and locate it within a discourse of curriculum change.

1.6 Research Questions

This study investigates the following research questions:

1. How did students, teachers and school heads in the participating schools in Saudi Arabia experience the Tatweer Project?
2. What curriculum change issues were faced by students, teachers, school heads and policy-makers when the Tatweer project was implemented in the public secondary schools in Saudi Arabia?

3. How can innovative projects such as the Tatweer Project be introduced successfully in schools?

1.7 Scope

This study is mainly an investigation, description and analyses of how the new curriculum (Tatweer) was implemented and the issues related to the implementation in Saudi Arabia Secondary Schools. A study of this nature can be useful in establishing the pulse of curriculum implementation by examining the level of functionality from the point of view of those on the curriculum chalk face. Any research is subject to limitations. A limitation that this study has mainly emanates from the time constraints that affected the research. Though the study sought the perspectives of those on the ground, more insight into the situation extant across the country could have been attained with more respondents taking part in the study. The study was thus limited to five public schools where the TP was being implemented. A nationwide study could go a long way in bringing to light how the TP is faring across the country.

1.8 Positionality

It is impossible for a researcher to stand outside his/her personal beliefs and experiences in reaching conclusions. This is because what is being explored, described and analysed is inseparable from the researcher's cultural background (Sikes, 2004).Thus, in conducting this research I was sensitive to the potential impact of my values, beliefs and norms in the way I chose my research topic, the way I constructed my research questions and how I chose my research methodology. It is not feasible for a social researcher to be 'value-free' as any researcher's assumptions are influenced by her/his values, beliefs and religion (Sikes, 2004). The researcher needs to consider and address his/her own position in the research he/she is carrying out. To achieve this, I will clarify and present my position by providing a brief personal biography.

I am from Saudi Arabia and I am a civil servant who works in the Ministry of Education. I was educated, and I grew up in the same context where I conducted this research. I belong to the community of people whom I interviewed for data collection, I eat the same food that they eat, and I speak the same language. I went to conduct my study in schools feeling that I was an insider although I had to behave as an outsider to avoid influencing the participants' views. As will be explained here and in some sections of this thesis, my

insider/outsider position had both advantages and disadvantages in the conduct of the study (Jones, 2006). The fact that I am culturally the same is an advantage because I can understand the meanings of the social interactions better. I might be in a better position compared to a foreigner because the Saudi culture is not only different from cultures of other countries but also from Middle-Eastern cultures. Despite this advantage, I am aware that I have to reflect on what I understand about the research setting as Bryman (2008) explained that the researcher's ability to critically think about their own epistemological position is important because it impacts on how the researcher interprets data.

I am from a very simple family in Saudi Arabia, in Arabic we call it Bedouin - the traditional tribal people who grew up and settled in the Sahara. I first attended a small and simple school with friends from the same social background whose parents were illiterate like mine. I remember spending hours memorising the Quran (the Muslim Holy book) as well as reading and writing the Arabic language. I was very scared by the school environment because the teachers would usually punish and beat students. Parents thought they did it because the students deserved it. Rote learning was the predominant method of learning; even maths and science subjects were taught to be memorised. Education was dominated by political and religious ideas, and policies were designed to promote the Saudi Kingdom. Global literature was banned. Civic education was very minimal as compared to other countries. Books were written and distributed to the students by the government. This had a constraining impact on my intellectual ability to the extent that if a Western person asked about my knowledge he would think I had studied in the Stone Age!

School days would start by first listening to verses of the Quran, followed by the Saudi national anthem. After school, I used to help my father at his farm but would never forget to do my homework because the teacher would beat me if I went to school without having completed it. Progression from one grade to the next was not automatic. Every month we had to take tests that followed a predominantly rote learning mode and there would be a very difficult final examination at the end of every year. Students who failed this could not progress to the next grade. Rote learning was not only the mainstay of the school system, but it continued outside school. Parents at home would force their children to memorize the material assigned for home learning and the teachers would check if this had taken place by asking questions in class. It was a very painful task and I often fell asleep whilst trying to memorize the content. The person who remembered the best and

wrote exactly what the teacher had written on the blackboard would get the best marks and educational achievement was only measured based on academic excellence. Reading was encouraged by my parents who borrowed books from the library and asked me to read them because they thought I would be wasting my time at home if I was not reading books.

The interpretivist research paradigm that is used in this research will be discussed and explained in the methodology chapter. My position in this study is an interpretivist one and its starting point is that social reality can be understood by examining social interactions (Guba and Lincoln, 1989). Applying this to the curriculum implementation in the context of Saudi Arabia, I view it as a social process that is ongoing between different teachers, school heads and policymakers. They all have their own interests and the curriculum is something that is created from their conversations and meant to achieve those interests.

My choice of research topic focusing on curriculum change did not just come to my mind randomly but was the result of questions that arose on interrogating curriculum practice having been exposed to wide ranging teaching approaches that took me as far as Australia. After I finished my high school career and having attained a bachelor's degree in Saudi Arabia, I went to Australia to study for a Master of Business Administration (MBA) degree and it was quite an eye opener in terms of teaching approaches. The teaching approaches in use in Australian schools which my children attended were different. My family and I came across a completely different approach to teaching and learning. No longer were my children burdened with bundles of textbooks to memorise because learning was based on the experiences of children instead of a one-way transfer of knowledge. In hindsight, the worst thing in the Saudi Arabian system in my days was rote learning. Critical thinking for me never existed at that time. The laws of physics, mathematics and geometry had very high status and came with a straight jacket, as no one should challenge this knowledge because science was seen as having been invented by higher-level academics and intellectuals whose positions cannot be challenged. I thought high school would be different but when I went to high school, it was just the same. Obedience was encouraged, and questioning was discouraged. Thus, it was not a system that encouraged young people to challenge what they were taught.

The inherited system of rote learning and lack of creativity appear to be still in place. After I completed my BA in Arabic language, I became an Arabic language teacher and

one thing I noticed was that the curriculum change programmes focused on science and technology in its hard form. Subjects like philosophy, comparative religion or world history were absent except for Saudi and Islamic history. As a teacher, though at the time not very much exposed to education methods in other parts of the world, I still tried to change some aspects of the subject that I was teaching. However, I ended up not being able to bring about any change because of the bureaucracy and lack of inclusive curriculum planning which still seems to exist today.

1.9 Chapter Conclusion

This chapter has sought to give a broad overview of the study under investigation by highlighting what each chapter contains and has also presented the broad overview of the Tatweer Project within the context of Saudi Arabian curriculum provision. Key research questions have also been presented alongside my positionality as a researcher, as a Saudi born curriculum practitioner who has also been exposed to education systems in other countries. The following chapter gives more details about the historical development of education in Saudi Arabia and elaborates on how the TP emerged.

CHAPTER 2: THE EDUCATIONAL CONTEXT OF SAUDI ARABIA

2.1 Introduction

As indicated in chapter one, my study interrogates the implementation of the Tatweer project (TP) in Saudi Arabia. This chapter presents the historical development of education in Saudi Arabia with a view to providing a context for the educational reforms implemented under the TP. Firstly, I will focus on the national context in general to familiarise the reader with both the socio-economic aspects of the Kingdom of Saudi Arabia and the size and nature of the education system which is the area of interest in my study. The discussion of the education system will include an overview of the traditional education system, which involves highlighting the role of the Mosques and the Kuttabs. This will then be followed by a discussion of the modernisation of education in the country, that is, the development of a formal education system consisting of schools and of clear management and leadership structures. Lastly but not least, I will then focus on a detailed discussion of the TP which will include the rationale and the key objectives that the Government set to achieve under this innovative education reform initiative.

2.2 An overview of the socio-economic context of Saudi Arabia

The Kingdom of Saudi Arabia is located in the Middle East and it shares land borders with seven countries including Kuwait, Iraq, Qatar, Oman, Jordan, UAE and Yemen. Figure 1 below shows the location of the Kingdom of Saudi Arabia and its neighbouring countries.

Figure 1: Geographical location of Saudi Arabia

Source: BBC News (2019)

The country has the largest land area compared to all the Arab states in western Asia and it is the second largest in the Arab world after Algeria. According to the Central Department of Statistics and Information (2015), Saudi Arabia occupies four-fifths of the Arabian Peninsula with an area of 2, 149, 790 square kilometres. The Information Office (ibid.) describes the terrain of the Kingdom of Saudi Arabia as varied consisting of grassland, mountain ranges, forests and barren desert lands. Compared to the other Arab countries in the region, Saudi Arabia has the largest population, which currently stands at 33 million (General Authority for Statistics, 2019). It appears that the large population is one of the major challenges the government is facing as the majority of its population consists of young people who are looking for education opportunities to equip themselves with skills required on the job market. As will be discussed in subsequent sections of the thesis, a number of educational reform initiatives have been pushed to meet the demands of the changing economy (Courington and Zuabi, 2011). In their study, Courington and Zuabi (ibid.) indicate that around 2011, 50.8% of the country's total population was under the age of 25 and 94% of the unemployed were under the age of 35.

On one hand, the Kingdom of Saudi Arabia is well known in the world as the birth-place of Islam which is the country's official religion. The country is often called the 'land of the two Holy Mosques' in reference to Al-Masjid al-Haram in Mecca, and Al=Masjid al-Nabawi in Medina (Aljabreen and Lash, 2016). Arabic is the main language (Royal Embassy of Saudi Arabia, 2019), however, English is used in much trade correspondence as observed by the Council of Saudi Chambers (2013). On the other hand, Saudi Arabia is one of the world's largest oil producers (Information Office, 2015). The discovery of oil has led to much growth and development in Saudi Arabia including in the education field. The Tatweer project which is the focus of my study is one example of how the Saudi Government made use of its financial resources to bring about educational reforms aimed at further developing the country's economy. In particular, the Government realised the need to change the education system in order to ensure that students would be equipped with skills that meet the economic demands and challenges faced by the country such as the need to diversify the economy (Courington and Zuabi, 2011).

The Saudi Arabia Government has continued to consider education to be the potent tool for the country's economic development agenda. The Ministry of Education oversees the

provision of general education. The country currently has more than 30 000 public schools providing free education for its citizens across the country's 13 administrative regions (Ministry of Education, 2019; Aljabreen and Lash, 2016). As stated by the Minister of Education, Dr Ahmed bin Mohammed Al-Issa, in 2017, the Government allocated about 200 billion Saudi Riyals (almost US$53.3 billion) towards public education, which employs more than 500 000 teachers across the country (The National, 2017). For tertiary education, the Ministry of Higher Education looks after up to 50 public and private Universities in the country. Compared to the other Arab countries in the region, Saudi Arabia is the number one spender on public education, spending an average 6.9% of its GDP (Courington and Zuabi, 2011). Despite the Government's commitment and high levels of spending, Saudi Arabia is still faced with the formidable challenge to make meaningful reforms to its public sector education system that is plagued by inefficient bureaucracy and heavy religious influence (ibid.). The country's public education system is influenced significantly by the role of the religious clerics whose conservative stance makes it difficult to bring about changes that seek to develop a global mindset. As will be discussed later, the public education system is generally segregated on the basis of gender and this continues to maintain gender inequalities in education which affect the country's economic development. More details about the organisation of the public education system are provided in section 2.5. The following section focuses on the discussion of the traditional education system in Saudi Arabia, a precursor for the understanding of the modern education system and the educational reforms that the country is pursuing, for instance, the Tatweer project.

2.3 The Traditional Education System in Saudi Arabia

As in many other Muslim countries, there existed a traditional education system in Saudi Arabia for many centuries stretching up to the first half of the 19th Century. Education was provided by two institutions namely, the Mosques and the Kuttabs. Each of these two institutions played a vital role in providing basic education to both young and old people in the society. According to Ansari (1998), the traditional education system had the following functions in society: To transmit the religious and cultural heritage of the Arabs from one generation to the other, to prepare students for different roles in the Mosques and other religious and social institutions, and to maintain the religious social order and strengthen the religious belief system (p. 43).

The Mosques played a key role in educating the public in the past and continues to provide religious education to Muslims across the country even today. The educational sessions held in Mosques were called Al-halaqat (the circles) during which the teacher sat in a circle surrounded by his pupils who followed the instructions and tried as much as they could to learn from the teacher's behaviour. In this system, the main emphasis was on religious subjects such as the life of prophet Mohamed and the Holy Quran. Quranic memorisation was the main purpose of education with people receiving lessons on the interpretation of the Quran (Al-Abdulkareem, n.d).

The Kuttab was another key feature of Islamic civilisation serving as one of the initial introductions to education as well as playing an important role in Islamization. The term 'Kuttab' is derived from the Arabic word 'Kataba' which means 'to write'. The Kuttab is also referred to as the traditional Islamic Quran school given the emphasis it placed on religious education (Ansari, 1998). The curriculum consisted of religious content and included the teaching of the Quran and the basic tenets of Islam. The Kuttab system had an informal organisational structure based on the absolute authority of the teacher known as 'mullah' or 'muttawa'. The teachers were simple religious people having a basic knowledge of the Quran and a good understanding of the rituals of the Islamic religion and of Arabic language. Just like education in the Mosque, a superior surbodinate relationship was established between the teacher and the students and the students were expected to follow the teacher's behaviour pattern. Two types of Kuttabs existed namely, the ordinary and the advanced Kuttab. Ordinary Kuttabs were available in almost every village and did not have any specially constructed classrooms. The primary focus of the ordinary Kuttab was to ensure that students memorised the Quran. On the other hand, the advanced Kuttab which was situated mainly in large towns and housed in special buildings imparted Quranic and religious teaching as well as the teaching of reading and writing of the Arabic language and of elementary arithmetics.

Not many people could access the advanced Kuttabs. The ruling family and some rich families in the country had special Kuttabs meant for their children only. This means that there was no equality in the provision of educational opportunities across the country. In the same vein, girl child education was not viewed as important in the traditional education system. The teachers in the Kuttabs could be male or female. Male teachers held Kuttabs in their homes, shops or even village bazaars while female teachers held

their classes only in their homes. Children of both genders under the age of 10 attended the Kuttabs. They could join the Kuttab any time and there were no strict rules of attendance. The Kuttabs were segregated on gender lines with girls attending Kuttabs led by female teachers and boys attending Kuttabs led by male teachers.

Girls were taught very elementary reading and writing and were normally withdrawn from the Kuttab when they reached 11 years old. The difference in the way male and female students were treated which has permeated even today's education system in the country, is a result of the culture and religious beliefs followed by the people. Some examples of how female students are differentiated from male students are considered in section 2.5.1.

The Mosque and the Kuttab were closely related, in particular, in their focus on religious education (Ansari, 1998). In both cases, students had to memorise the Quran and learn the important rituals in Muslim religion. However, the Kuttab curriculum was wider than that of the mosque's education because the Kuttab also taught foreign languages, such as English Language, and mathematics as well as reading and writing in general (Alromi, 2000). Islamic civilisations were characterised by the Kuttab education system for many centuries; however, the education reforms from the mid-19th Century led to the decline of the system. The following section discusses the transition from traditional to modern education system in Saudi Arabia.

2.4 The Modernisation of Education in Saudi Arabia

In a similar fashion to what was happening in other countries in the region, a new education system began to emerge in Saudi Arabia in the 20th Century. This change was made inevitable by a set of internal and external factors. For instance, one of the key external factors which led to massive changes in the education system, not only in Saudi Arabia but also in the whole Middle East region, was the contact with the western countries (Ansari, 1998). It is understood that:

> the western influence on the Arab education came from three major sources namely through Egypt in the early 19th Century after The Napoleonic victory of Egypt, through the Ottoman Empire reforms of 1839 which introduced public education on western style, and through British ascendancy in the Middle East (Ansari, 1998, p.44).

The beginning of the formal education system in Saudi Arabia can be traced back to the times of the Ottoman Empire in 1916. During that time, resident Turks, especially in the western regions such as Medina and Mecca, controlled Saudi education. The majority of subjects were taught in Turkish, including the Arabic language itself, which created a sense of discomfort within the Saudi community (Sebai, 1979).

After the Turks were defeated and the country gained independence from Turkish control under the leadership of Shareef Hussein bin Ali, (the era of Hashemiya), some changes were made in the provision of education. Hashemiya opened education further and started to introduce the Turkish model of education replacing the local system. During this period, the government realised the importance of empowering its citizens through education. However, it did not manage to introduce comprehensive changes across the whole country (AL-Abdulkareem n.d.). Piecemeal changes were made in some of the Kuttab School's curriculum where some other subjects like arithmetic and foreign language were included in the curriculum.

Since the 1920s, a small number of private institutions were offering limited education for boys. The first government body to monitor and provide education was formed in 1924. The first formal education system was established in 1948 after the kingdom of Saudi Arabia was united under King Abdul Aziz. During this time illiteracy was almost 95%, showing that only a few people had been able to access education in the past. The discovery of oil in the country made it possible for the government to invest more money into the provision of education across the country. For example, the number of schools rose from only one school in 1925 to 182 schools in 1949 accommodating 21,409 students as compared to only 2,319 students in the 1930s (Alromi, 2000).

The newly established education system in Saudi Arabia benefitted from the expertise and lessons drawn from King Abdul Aziz's close allies, which included countries like Egypt and Syria. These countries had been colonised by western powers and had well developed education systems structured using the western model of education. Bilateral agreements were made which resulted in the provision of scholarships for Saudi Arabia nationals to study in Egypt and Syria. For instance, Saudi Arabia used Egypt's assistance to train its first formal school teachers in the 1950s when the King realized that the biggest challenge for the education sector was the lack of qualified teachers (Rugh, 2002). Syria, on the other hand, helped to structure the first school curriculum, which was implemented

during the mid-1920s replacing the Kuttab curriculum. The curriculum was modified to include religion and Arabic as the main curriculum components to make it relevant to the cultural needs of the Saudi people (Al-Sadan, 2000).

Yet, the country faced problems such as a high level of illiteracy; it needed skilled workers to promote economic development. King Abdul Aziz converted the Directorate of Education into the Ministry of Education (MoE) in 1953 under the leadership of his son Prince Fahad (who later became the king of Saudi Arabia). Under Prince Fahad's leadership, the country's education system went through a massive reform. Fahad did not only organise the schooling system but he expanded education to the university level, empowering the economically poor and vulnerable families by offering government grants to support their education. The biggest change can be said to be the free Education for All (EFA) policy introduced in 1953 which did not only make the tuition free but also provided free transportation and removed other administrative costs for everyone in the Kingdom (Baki, 2004).

Another positive change during Fahad's term of office was the inclusive educational policy that provided equal education for all, including women. Under this policy, a separate wing was created within the MoE for female education and female teacher training. As a result, from 1960 onwards a new era begun and a formal education system was implemented. The first government school for girls was established in 1964. There was a delay in the construction of schools for girls due to resistance from some of the religious leaders who disagreed with the idea of educating girls. However, by the end of the 1990s the schools for girls were built all over the country (See appendices A-D for summary statistics of male and female education in KSA).

Fahad also institutionalised educational administration structures throughout the country. He opened regional Education Offices in all the cities and towns with the responsibility of administering and supervising education in designated areas (Alromi, 2000). The purpose of education from 1953 onwards slightly changed as compared to the traditional purpose of only maintaining the religion and cultural values of the country. During Fahad's tenure of office, due to the country's economic development and exposure to the multinational firms as well as the growing number of foreign workers, education had several purposes. These included the creation of employment opportunities and social development so that the people would adopt the modern way of living. Moreover, the

most important purpose was still maintaining Islamic principles within the Kingdom on which the sovereign Kingdom's legislation was based. Al-Salloom (1995) describes Islam as not only integral to Saudi education but also serving as the very essence of the curriculum.

2.5 The Contemporary Education System in Saudi Arabia

The education system in Saudi Arabia consists of two main phases namely General education and Higher education. Education is provided by either public or private institutions. There are separate schools and universities or colleges for male and female students. The segregation of students is a key feature that has been inherited from the traditional education system. It has endured in the system because it is a policy based on the religion and culture of the Saudi people which, according to different scholars, is resilient and that has proved difficult to change overnight (Rugh, 2002; Lindsey, 2011). In my view, it will take time for this kind of policy to change given the strong link to religion and people's culture. The following Figure 2 summarises the education system in Saudi Arabia showing that there exist one ministry of education that looks after both general and higher education (Ministry of Education, 2019). Prior to 2017, there were two ministries, one for the general education and the other one for the higher education.

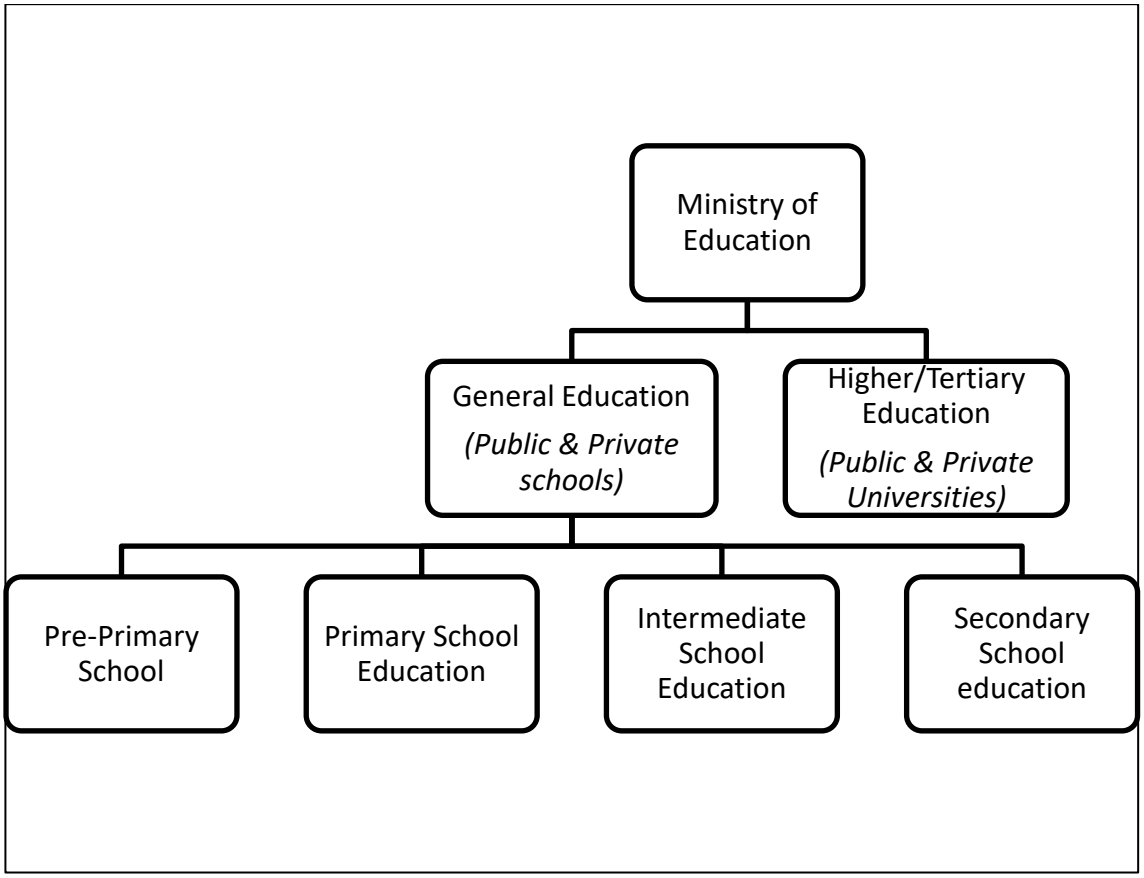

Figure 2: Education System in Saudi Arabia

The Kingdom of Saudi Arabia is divided into 13 administrative regions and each region has a directorate of education which reports directly to the Ministry of Education (Ministry of Education, 2019). As indicated above, the provision of general education is done by both the government and some private providers. The public schools follow a centralised curriculum, hence, the curriculum is still heavily influenced by the religious clerics (Courington and Zuabi, 2011). Below is a brief description of the ages and number of years spent at each of the different levels of general education in Saudi Arabia. More information regarding the number of students enrolled in Saudi schools, statistics of the provision of male and female education and the number of schools, classrooms, and academic staff in each administrative region is provided in appendices 1 A to 1D.

2.5.1 General Education

This comprises of four levels, namely, pre-primary/kindergarten, primary school, intermediate and secondary school.

- Pre-primary/kindergarten education

This is attended by children aged 3-5. This educational level is not compulsory and is not part of the official education provisions. The private sector dominates the provision of kindergarten education; however, the government is beginning to support early childhood education (MoE, 2018).

- Primary School education

This is compulsory to attend and lasts for 6 years. Children enter school at the age of six. The curriculum includes mathematics, physical education (open to girls since 2017), Arabic language, history, Islamic religion, art education, science, home economics (for girls only) and geography (MoE, 2017). English can be taught. At the end of the course, students take an exit exam and they receive an elementary/primary education certificate.

- Intermediate School education

This is compulsory and lasts for 3 years. Students can go for general or specialised education upon completion of this level of education. Specialist education consists of vocational and technical education courses. The curriculum consists of the following

subjects: mathematics; Arabic language, religious education; history; art education; science; English; home economics (for girls only); geography and physical education for both boys and girls.

- Secondary School education

This level of education is not compulsory. It is the final level of either general or specialised education. It lasts for 3 years. This comprises of programmes in sciences, arts and commerce, or vocational and technical education. The technical secondary institution offers specialised education in vocational and technical education and training. This education lasts for 3 years and is offered in the fields of commerce, agriculture and industry.

2.5.2 Higher education

This is provided by both public and private institutions. Similar to the schools, there are different institutions for men and women. Saudi Arabia has more than 40 universities across the country offering different undergraduate and postgraduate programmes. In addition, the government is providing scholarships for students to access higher education from developed countries in different areas of need including education, engineering and medicine.

2.6 Main Factors Impacting on the Education System in Saudi Arabia

A number of factors have influenced the development of education in Saudi Arabia. As indicated earlier, this includes internal and external factors. The following section discusses some of the key factors that have played a significant role in shaping the educational reforms in the country.

2.6.1 Religion and Cultural Values

Religion is one of the pillars of education in Saudi Arabia. This is because Saudi Arabia was built as a nation with Islam constituting its core value system. When the country was unified under King Abdul Aziz in the 1930s, the then powerful religious Sheikh Muhammad bin Abdul-Wahhab supported King Abdul Aziz's leadership and this relationship made Islam the sacred religion of the country upon which the country's laws

and legislation is formed (Rugh, 2002). However, very often Islam and cultural conservatism in Saudi Arabia have been misunderstood by outsiders and considered as a barrier to economic development (Baki, 2004). The national curriculum has been criticised by external countries, in particular, the Western countries, for placing much emphasis on religion. However, not everyone thinks that religion impacts negatively on educational developments (Rugh, 2002). For instance, Baki (2004) asserts that Islam has been a religion known arguably for promoting education and gender equality. The Muslim holy book, the Quran, for example, starts with the word Iqra which means ‘read’ and this shows its encouragement for literacy. The Prophet Mohamed (Peace be upon Him) reportedly said 'He whoever learns other people's language will be secured from their cunning' (Elyas andPicard, 2010, p. 141.) This is how learning a language has been encouraged since ancient times within the Saudi culture.

One of the reasons why some people criticise the religion and cultural conservatism is the visible underrepresentation of the role of women in education across all the regions in the Kingdom. As a result of the religious and cultural conservatism, in the past, the education system did not allow female students to enrol in some subjects such as physical activity at secondary level (Rugh, 2002). At university level, there are some departments, such as engineering, that females (both students and employees) cannot join. However, some other departments such as nursing are more common destinations for females (Rawaf andSimmons, 1991). This is because the Saudi culture and religion segregates the roles according to gender. The current government is introducing some changes to address the imbalances between men and women in the country. For instance, unlike in the past, women are now allowed to drive and travel without a guardian and as indicated above, in schools, females are now allowed to participate in subjects like physical education. In the same vein, women are now allowed to participate in sporting activities at local level as well as internationally, for example, the Olympic Games.

The separation of male and female students at school level still remains the characteristic feature of public schooling in the country (Al-qahtani 1995; Baki, 2004). One aspect that has been contentious in terms of curriculum provision is the emphasis that religion places on Islamic education, a point brought up by Rugh (2002, p.52) who argues that:

> It is important for Saudi system to produce Islamic scholars, and it is important for Saudi citizens to know their religion. The only question is, how many need to reach the highest

> level of Islamic learning, and how much time do ordinary citizens need to devote to religious learning at the expense of other studies.

As indicated by Rugh (ibid.) in the above quotation, the emphasis on religious education in the school curriculum is being criticised. On one hand, it is important for the country to continue to preserve its culture; however, this must not overshadow other areas that are also important for the country's development. Debates of this nature have been going on in the country and this explains why some changes are being introduced in the school curriculum. It is also argued that because religious subjects are taught so intensely, it creates some shortage of practical skills resulting in shortage of workers in some professions, for example, in science and in areas related to it. The number of university graduates with Islamic and Arabic degrees has grown to a great number and there are not enough jobs on the market for them (Baki, 2004; Lindsey, 2010). Culturally, the religious sheikhs (who are authoritative Figures on Islamic religion) have significant power and what they say about any policy change matters to the public more than anything else. For example, when education for girls was first introduced in 1969, a group of religious sheikhs from a very conservative region visited the then King Faisal protesting about building a school for girls in their area. The group's main concern was that education would misguide and ruin their daughter's life as it is against their religion for girls to be educated. The King asked them to provide evidence of their claim from the holy book 'Quran' that educating girls is against Islam. They could not produce any evidence and therefore, they were left without any choice but to accept girls' education (Rawaf and Simmons, 1991).

The growing public access to mass media communication, the Internet, and the reduction in the cost of access to these communication media has been emerging as the front challenge to conservative religious ideas. However, the influence of religious groups over the social system, especially the education system, is still strong in the Saudi context. The resistance from some of the religious sheikhs, teachers, and lecturers with a religious mind-set creates difficult tensions for the government to implement some of its educational reforms, even today. Azuri (2006) gives an example of religious sensitivity towards any attempt at curriculum change and how it can be seen as a threat to the preservation of 'Islamic Identity'. According to him, when the government announced its intention to increase English language teaching hours in schools, 61 Saudi Arabian Sheikhs, professors, attorneys, and judges, and even university presidents, signed a petition saying that the move was westernizing the Saudi Arabia's education system and

that the rulers must stop before a 'Junta' overtakes the system(Azuri, 2006) . This event shows how contested curriculum change can be in Saudi Arabia.

2.6.2 The Economy

The country's economic status determines to a large extent the way education provision and reforms can be initiated. Alongside the countries in the Gulf region that prepare and design their economic development policies based on moving to a knowledge-based economy in which low-cost and high-end export can result in better economic prosperity and a sustainable economy, Saudi Arabia also invests heavily in transforming its economic model towards this goal (Lindsey, 2011). Since the 1950s, after the discovery of oil, Saudi Arabia has been importing the labour it needed to meet the economic demands and to fill the skill-shortages in the labour market. Nevertheless, the government decided that to transform from a traditional economy to an economy that designs its activities based on knowledge, and knowledge creation and dissemination while maintaining its identity, Saudi Arabia must control the influx of foreign labour. Consequently, the government's response has been two-fold: investing in modern education and limiting foreign labour by imposing legislative measures such as 'Saudaisation'. which is a regulation that requires certain types of businesses, such as those in the retail sector, to employ a proportion of Saudi nationals (Aljughaiman andGrigorenko, 2013).

The country increased its investment in higher education significantly. This increase saw the government spending 7.31 billion USD in 1984 and in the 1990s this amount rose to 25 billion USD (Rugh, 2002). Also, The government believed that investing in innovative research could open the gateway to directing the development towards a knowledge-based economy, meeting the needs of the multi-national firms that carry out commercial operations in the country and incubating more institutions for future economic prosperity (Lindsey, 2010). This drive saw the opening of the King Abdullah University of Science and Technology (KAUST) with a personal donation of 10 billion USD from the Saudi King. However, many experts criticized this move and questioned whether the research facilities will fulfill the country's current needs because there are very few Saudi nationals trained in research skills and only 7% of KAUST researchers are Saudi nationals; all the rest are foreigners (Lindsey, 2010). Lindsey (2010) notes that this project has missed the real reform target because it does not go to the grass-root level of educational problems. She thinks that education in Saudi Arabia needs reform at school level so that students

are taught science and technology skills; if students do not get a modern education at school, they will not be able to apply for science courses at university level.

Another feature of the Saudi economy is that its national workforce is dependent on the government as the main source of work. Other players, for instance, the private sector, constitute an important source of employment for the labourers. The government has a banding system through which it assigns a government position for all graduates depending on the qualification they hold. However, the government was shocked to find out how inefficiently the system works. In August 2010, a group of 200 unemployed Saudi university graduates protested in front of the Ministry of Education in Riyadh, demanding government jobs. The government felt that these socio-economic uprisings were due to its long history of insufficient economic policies that were not aligned with educational policies (Lindsey, 2010).

2.6.3 Globalisation and Social Structures

It is evident that some external factors such as globalisation have also impacted on the development of education in Saudi Arabia. As highlighted earlier, pressure from other countries can lead to some curriculum reforms. For instance, the 9/11 attack in the USA affected the curriculum in Saudi Arabia as its education system was criticised for promoting religious intolerance. After the 9/11 attack, further efforts in curriculum change were introduced. Although Saudi Arabia itself faces terrorist attacks, it promised that any extremist religious texts would be excluded from the curriculum, a promise which some of its influential religious sheikhs still continue to resist (Shea 2006).

The Saudi Arabian government is controversially known for protecting its social systems from foreign influences in order to sustain its religious, cultural, and social harmony (Coogle, 2015). The government believes that it should systematically control multiculturalism and so, as a result, they put in place legislation that makes it difficult for local Saudis to interact with foreigners in their country. However, the country primarily depends on foreign labour and such an objective can become increasingly difficult. For example, in the 1970s, the government allowed foreign nationals to build their own schools and offer an international curriculum in those schools. However, the local Saudi students were not allowed to enrol in these schools until recently. The government's regular struggle to distance its population from any foreign influence, ideas or knowledge is still a largely intractable policy. For instance, the Saudi parliament, the Shura, passed

a bill that imposed new rules limiting marriage between Saudis and foreigners. The new law suggests that Saudi Arabian men who wish to marry foreigners require prior marriage permission from the government. The age gap between the prospective couple must not exceed 25 years. The law also requires foreigners to be free of any serious health condition and anyone who disobeys the rules can be subjected to a fine of USD 26,500. In addition, it is still debated in the Shura if the government should grant citizenship to foreign husbands of Saudi women. A public poll following the parliament's bill showed that the public was very much against this law (Kawach, 2010). Many people equated the parliament's move to gender discrimination and some even described it as extremely uncivilized, saying that other nations have landed on the moon while Saudis are still debating mixed marriage issues (Kawach, 2010). If the new laws that are being contemplated are passed, this would constitute an important step in the right direction for the emancipation of women in Saudi Arabia.

2.7 The King Abdulla Bin-Abdul Aziz Public Education Development Project (Tatweer)

In an effort to address the problems and challenges faced in the country, a number of initiatives have been developed and implemented in the education system dating back to the 20th Century till the present day. An analysis of all the different initiatives is beyond the scope of my study; however, as highlighted in the preceding chapter, my study focuses on one of the initiatives called the TP. In the following section, I will explain what the project entailed making explicit the goals that were set out to be achieved by the government.

As explained earlier, the formal education system in Saudi Arabia started in the second half of the 20th Century. The school curriculum was characterised by a large amount of religious content, which was meant to be memorised by the students. Basically, students adopted rote learning which meant that they could not be creative and were unable to apply their knowledge to novel situations to be able to solve problems. The conspicuous absence of modern science component in the curriculum made it difficult for the country to produce the skilled labour force that could drive the economic growth that the country needed. This prompted the government to come up with a home-grown initiative called the Tatweer education reforms which were meant to improve the quality of teaching and learning in Saudi Arabia. The various criticisms that have been made about the Saudi

school curriculum, have made the Saudi government pay more attention to the curriculum with regard to content, teaching methods, the number of subjects on offer and assessment. Wang (2014) explains that the TP was a result of Saudi Arabia's first National Dialogue that focused on three key themes: identity, national unity and international relations. The idea was to modernize the education system in the country in a way that would connect the Saudi education system to international knowledge revolutions (Ministry of Education, 2008). TP is one of the biggest education reform projects in the Middle-East region with a record budget of 2.4 billion USD (IBP, 2015). The project's vision was to create a self-sustaining knowledge workforce that is of highest quality and ability to compete at international level (Tatweer, 2008). Tatweer was announced in 2005 and was implemented in 200 selected schools across the country by 2007 (Albedaiwi, 2014; Al-yami, 2014). According to the Saudi Ministry of Education, the project was planned to run for an initial period of five years (i.e. 2007-2012).

The objective of the Tatweer education policy was to improve education in the primary, intermediate and secondary public schools in Saudi Arabia. The TP mainly covered four areas of development: 1) school curriculum development, 2) teacher training, 3) improving the school educational environments, and 4) improving the extra curriculum activities (Tatweer, 2008). The Ministry of Education (as one of the main stakeholders and one of the principal drivers of Tatweer) outlined the aims for each of these domains and explained how the programme was to be implemented. A summary of the aims of each of these areas and the proposed implementation for it as described in the Tatweer (2008) and the Ministry of Education policy documents (Ministry of Education, 2008) is given below.

When the project was first launched, the Ministry of Education set four main objectives for the TP. Firstly; there was a target to develop the curriculum to respond to scientific and technological advancements and to provide the knowledge required for the professional, physical, psychological, and mental needs of students of both genders. Secondly, there was the need to re-train the teachers so that they can deliver the new curriculum, which was to be developed through the TP. Thirdly, the target was to improve the educational environment by integrating Information Technology and digital models of curriculum in the classrooms and the school environment in order to encourage holistic learning. Finally, there was an emphasis on using extra-curriculum activities to boost creativity, self-capabilities, developing learners' talents, and habits.

It appears that despite the clear vision that the government had, the project was not very clear to the other stakeholders. For instance, two years after the project was rolled out, Al-Essa (2009) opined that although the TP's objectives seemed to be clearly defined, many things about the project were still unclear. Meemar (2014) argues that despite the big claims by the government about what Tatweer has done and will do to improve education, there is not enough evidence about whether it achieved its overall objectives, and therefore, more research is needed. This underscores the value of my study, which seeks to interrogate the implementation of the project by eliciting the views and experiences of the different stakeholders who participated in the project. In the following section, I highlight the different areas of focus for the TP.

2.7.1 Curriculum Development

Curriculum development was one of the priorities in TP (Tatweer, 2008). Before the implementation of TP in Saudi Arabia, the curriculum was narrowly defined as the set of textbooks that the government designed, wrote, published, and disseminated to all schools across the country (Al Alhareth et al., 2015). Prior to the implementation of TP, for every subject at primary, intermediate and secondary levels in Saudi Arabia, there used to be a textbook that provided the required topics, knowledge, theories and exercises the students should study (Alharbi, 2014). The contents of the textbooks were decided by the Ministry of Education and then distributed to all schools and teachers (Al-qahtani, 1995). For the school examination , students were tested on their ability to demonstrate if they knew the concepts covered in these textbooks (Meemar, 2014). This system was criticized for encouraging rote-learning and lack of creativity, because students had access only to the set textbooks, and to no other sources used in the classrooms or outside (Rugh, 2002) . All the secondary schools in Saudi Arabia had the same textbooks and taught the same content under this educational system. Students were seen as having similar learning capabilities, and learning was more theoretical than practical (Rawaf and Simmons, 1991).

Elyas and Picard (2013) argue that the TP may have changed this system by bringing about a more complex view of the curriculum and focusing on the total learning experience. Their claim needs more interrogation and the present study will seek to find out the views of curriculum practitioners like teachers and TP project workers on the ground as to whether Tatweer had a wider view of curriculum. For at the planning level

it would appear that TP had a broader perspective of the curriculum with some of its aims being framed within a broader context by the Ministry of Education (2008). The objectives of curriculum development given by the Ministry of Education (2008) are listed as follows: (a) to develop students' practical and scientific skills, (b) to align students' education with their own capabilities, (c) to match the students' individual needs, cognizant of the time and the knowledge required to fulfil these needs, (d) To change the emphasis of the curriculum from its knowledge content to the educational process by which students apply knowledge and recognize how they will use that knowledge in real life problem solving. (e) To change the way in which topics and knowledge content are arranged and delivered from unrelated independent topics and dictated by teachers to an integrated knowledge-base and to educational interactions between students and teachers.

At the international level, change intimates to changing the curriculum development process by seeking international expertise and building local expertise in curriculum development. The curriculum was also to be digitalized with the aid of technology, and there was also to be an increase in the quality of school textbooks and other educational materials. Taken in this context, at least on paper, Elyas and Picard's (2013) claim could possibly have merit. On paper, the envisaged Curriculum in Tatweer's schools was intended to be comprehensive, integrated and unlimited, with the conception of the curriculum as not limited to textbooks only, but as providing students with opportunities to learn from inside and outside the school using all resources including the Internet, newspapers and magazines.

2.7.2 Teachers' Professional Development

The second domain of Tatweer is teacher professional development and training. The objective was to empower teachers by providing them with the knowledge and expertise required for the new curriculum that was planned to be introduced under the TP. This involved training the trainers and providing training portfolios that would ultimately increase the efficiency of in-class education. In addition, training teachers on how to use information technology and promoting computer literacy was considered as one of the goals in this domain (Amannie, 2015). The Ministry of Education (MoE) claims to have implemented this domain (Tatweer, 2011). According to the MoE, teachers were provided with specialist training in their subject areas through remote and on the job training facilities. Interactive training courses were designed for this purpose. A team of

expert trainers was prepared among female and male teacher instructors who were to conduct continuous training in the future.

Before the Tatweer was introduced, teacher training was one of the weakest elements of the Saudi public education system (Meemar, 2014). Teachers in Saudi Arabia aligned their teaching to the government textbooks. Usually the teachers did not have teacher guides or separate books for them to guide their teaching, but they had the same textbooks as the students. Teachers were not allowed to make any amendments (Shea, 2006). In short, the curriculum was highly prescribed. In Albedaiwi's (2014) study of teaching style of Saudi Arabian secondary schools, he observed how the teachers taught English in class and found out that the teachers did not make any addition to the material they taught. His interview with seven teachers discovered that the teachers did not enjoy teaching because they felt that they had not enough autonomy and that they were restricted from bringing any new materials to their classes. Albedaiwi concluded that such restrictions have de-skilled the teachers and many of them today do not possess proper teaching skills.

Al-Madani and Allafiajiy (2014) and Alghamdi and Li (2011) point out that information technology is an area where teacher training is needed. They describe how Tatweer has planned to train teachers, but they do not give any evidence on what Tatweer had actually done about the professional development plan. In comparison, Wiseman, Astiz, and Baker (2013) condemned TP for not training teachers, students and principles before the project was launched. They argue that it was only after the project implementation that the Tatweer organisations realised that the teachers did not have enough skill and expertise to deal with high-tech digital resources. They also argue that the purpose and objectives of the project were not discussed with teachers as important stakeholders before it was launched. From the reports of the Tatweer Holding Company (2008/2011), it looks like the project focused too much on training teachers on the use of information technology. This might mean it has ignored or provided less training in other areas of the curriculum.

2.7.3 The Educational Environment

In the Tatweer documents (e.g. Tatweer, 2011) there is no definition of educational environment. The classroom environment seems to be the environment that the Tatweer talks about under this domain of the Tatweer. Before the Tatweer was introduced, the students and teachers had no access to Internet and resources outside their textbooks

(Meemar, 2014; Rugh, 2002). The lack of resources or variety of materials limited their application skills and creative thinking (Al-Qahtani, 1995; Al Alhareth et al., 2015). To address these challenges, the Tatweer had four objectives to improve educational environments (Tatweer, 2008) and these include: 1) to improve educational effectiveness by enhancing the learning environment, 2) to create and bridge the technological lack in the educational environments, 3) to integrate information technology into the education, and 4) to make different education sources available in the classes. The target was to: a) provide information technology resources to 200,000 classes (Tatweer, 2011). The technological resources include tangible resources (smart boards, projectors, documentary camera, laser printers), b) create a network of digital learning resources that would be readily available for students to interact and learn inside the classes and c) provide teachers with an electronic platform for lesson preparations (Ministry of Education, 2008). The outcome of this domain was to enhance the learning experience and provide an up to date digital environment for teachers and students.

All documents (e.g. Al-Madani and Allafiajiy, 2014; Almannie, 2015, Al-yami, 2014; Tatweer, 2008/2011, Wiseman et al., 2013) written about the Tatweer discuss about how well it planned to provide information technology and enhance learning experience while calling the schools the Tatweer Smart Schools for having smart technology inside the classes. However, none of the studies described or analysed how well the information technology served the students' needs and increased learning experience. Whether information technology is the most important medium needed for the improvement of the educational environment is an unanswered question. Moreover, it is not also clear on what grounds the Tatweer focused on information technology and how this had helped the actual learning. The TP's overemphasis on enhancing educational environment with high technology could have also sifted it focus from other things like the content and the ability of different students. The learning contents on computers were designed by foreign experts such as Pearson and Intel (Khaled, 2014). A team of local experts identified from different institutions was available to give their suggestions and participate collaboratively in the design of solutions to the problems and challenges. Whether what they designed was relevant to the Saudi context and the level of Saudi students is another unanswered question. Wiseman et al. (2013) argue that the information systems used in the Tatweer Smart Schools is designed for students to learn with minimal teacher's assistance and this question whether or not the new system is just another 'teacher-proof' way of learning.

2.7.4 Extra Curriculum Activities

Before the TP, extra-curriculum activities were unpopular in the Saudi Arabian public schools. There were few types of sports designed only for boys. The Tatweer promised to change this and expand extra-curriculum activities to include educational and cultural activities, sports and social activities for all genders (Tatweer, 2013). This domain reconstructed extra- curriculum learning experience for students with a local and cultural focus (Ministry of Education, 2008; Tatweer, 2008). The Tatweer (2013) claims to have; 1) expanded extra-curriculum activities in accordance with the Islamic values, 2) encouraged fruitful and positive competition in various creative domains between the students of different genders at all levels, 3) developed a sense of responsibility and capability in students, 4) Developed athletic talents among the students to allow cooperative participation opportunities, 5) increased health, cultural and athletic awareness, 6) developed information technology and internet skills in students of both genders, 7) encouraged creative thinking through application, 8) enriched the cultural development that combines Islamic, international and Arabic arts and sought to develop student tastes via improving aesthetic aspects, 9) Encouraged patriotism and loyalty in students through various activities involving scientific technology, arts, sports, social and cultural performances.

In 2013, the TP claimed to have trained 80 teachers and supervisors in sports (Tatweer, 2013). The extra- curriculum activities were planned to run in a purposely- specific school in every local area of the Saudi Arabia. After school clubs were to run in these schools and students from other schools would be brought to the schools where extra- curriculum school facilities were provided (Tatweer, 2013). The Tatweer's extra- curriculum dimension is one of the least researched areas and there are no documented studies on it except the government official documents and the Tatweer Holding Company reports.

2.8 The Tatweer Stakeholders

A number of stakeholders participated in the implementation of the TP (see Figure 1). There are key stakeholders and domain level stakeholders. The key stakeholders of Tatweer are Tatweer Holding Company (THC) and the MoE. This company was created for the purpose of planning, organizing and managing the TP with other stakeholders. The key stakeholders in curriculum development include the MoE, the Tatweer Holding

Company, International Experts House, Local Experts House and foreign experts such as Intel and Pearson. From these stakeholders, the International Experts House is a body called the Singapore National Education group. The project involved working in collaboration with a group of foreign experts, in particular, those from Singapore. This group is considered to be one of the most experienced expert group in curriculum development tasked to develop the content of curriculum change (Khaled, 2014). The Local Experts House is made of representatives from Saudi Arabian Universities, third sector organisations and curriculum experts from the Ministry of Education. The purpose of the Local Experts House is to advise the Tatweer Company on the design of curriculum content to be communicated to the International Experts House so that they could combine the local needs while designing the curriculum content for the Saudi Arabian schools.

Other stakeholders are the international consultants such as the Intel Company who provided the classroom digital resources and training to the teachers. These digital resources were linked with the work of Experts Houses that provided textbooks (Khaled, 2014; Wiseman et al., 2013). Another international consultancy organisation was Pearson, which, among other things, was associated with training teachers and the trainers in the field of mathematics and sciences (Arabnews, 2014). The role of the foreign experts, how well their work was integrated in the Tatweer schools and how useful and successful their products were, still needs to be investigated because no studies have explored these issues as yet. The Saudi National Education Evaluation Authority plays a part in Tatweer in terms of designing the evaluation criteria and assuring the quality of individual schools (Al-Bedaiwi, 2014).

In the domain of creating learning environment and building facilities, Tatweer Building Company and AECOM Technology Corporation signed an agreement to supply 2,100 educational facilities in Saudi Arabia that would provide information technology capabilities to the TP. These facilities were built in primary and secondary schools in all thirteen regions within three years (Tatweer, 2013).

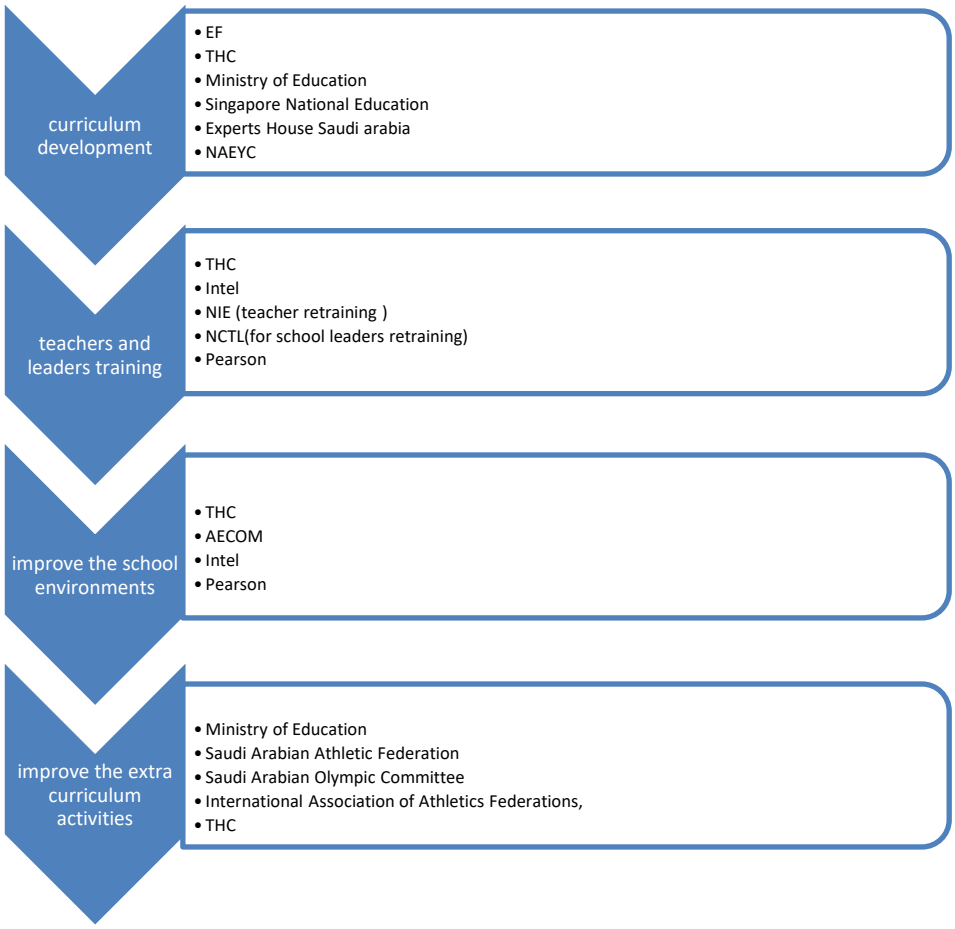

Figure 3: Some of the TP Stakeholders and their areas of focus

The literature review found five stakeholders of extra-curriculum activity domain. These are the Ministry of Education, Saudi Arabian Athletic Federation, Saudi Arabian Olympic Committee, the Tatweer Holding Company, and International Association of Athletic Federation. However, their roles and responsibilities are not clear from the Tatweer research documents and how they impact these organisations have not been explored. Clearly, there was emphasis in the development of sporting activities in addition to the other extra-curriculum activities. These and other stakeholders as discussed below formed part of my study.

At the level of educational institutions that directly deal with the Tatweer education policy and implementation, there are many stakeholders. For example, the MoE directly influences the regional education supervisors who oversee individual schools run by principals and teachers (Alyami, 2014).

2.9 The TP Phases

Since its inception, the TP has had two phases that are clearly documented. The project overran its estimated deadline of completion by 2012 (IBP, 2015). In phase one of the TP; the objective was to change the public schools from a traditionally known 'place of education' to an educational environment where the students are taught by well qualified teachers who would encourage independent learning with modern information technology (Tatweer, 2008). At this stage, 50 schools were chosen and the Tatweer Smart Schools (TSS) were created and equipped with the latest information technology tools. The focus was integrating technology into education (Al-yami, 2014).

According to Al-yami, the second phase started in 2013 when the Tatweer Holding Company realised that technology is not the only means for developing school education. In the phase two, schools were asked to make their own plans for educational development and the Tatweer provided technological and non-technological assistance to suit the locality. Al-yami (2014) points out that during phase one the Tatweer in each school was supervised by an external person called an educational expert who monitored each Tatweer school on a regular weekly basis, whereas in the second phase this was changed and an internal team of nine members were selected in each school and these members formed a unit called the 'Tatweer Unit' (TU) in each Tatweer school. These units were called 'the excellence team' and they included members from the school governing boards; a school tutor, teacher representative, a special-needs learning coordinator, and extra-curriculum activity specialist, two members of the community that represent the private sector, and someone with responsibility of overseeing student matters and learning matters (see Figure 4). Phase two also distinguished between 'Tatweer Schools' and 'TP' and seven Tatweer regional units were established across Saudi Arabia to oversee the Tatweer schools. Figures 4 and 5 below show the structure of the TP in phase 1 and 2 respectively.

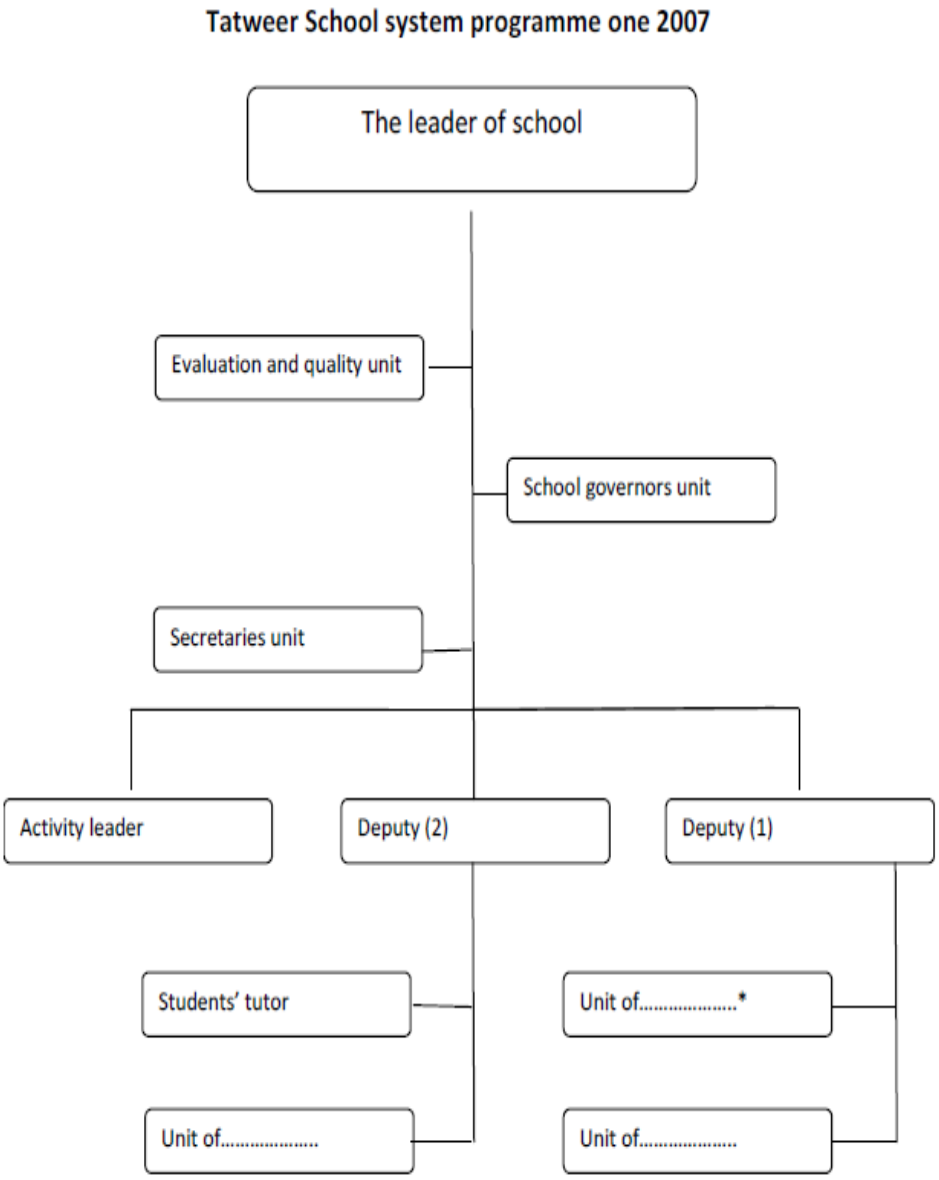

Figure 4: The Structure of Tatweer Schools under phase one (Al-yami, 2014)

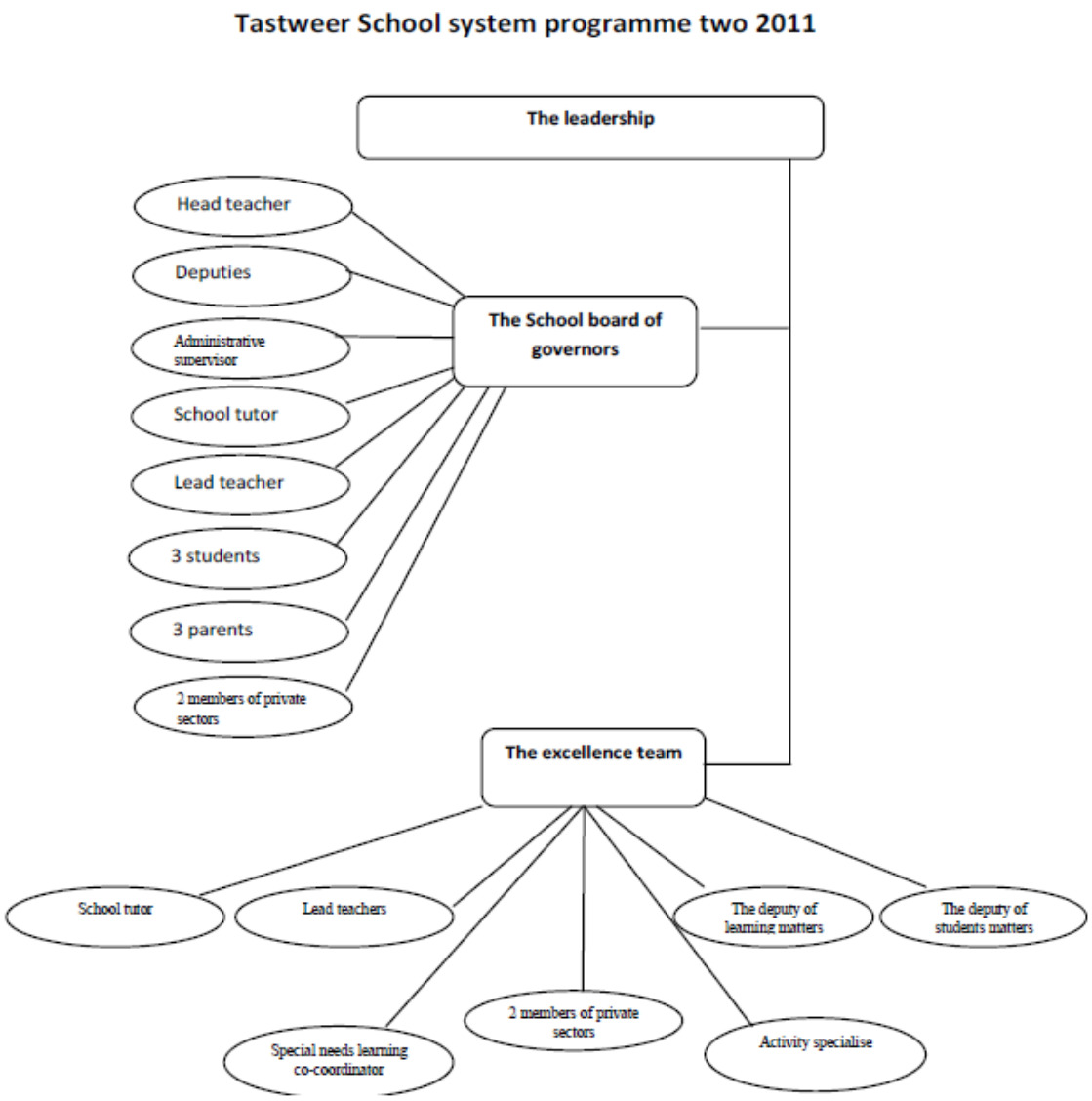

Figure 5: The Structure of the Tatweer Schools under Phase 2 (Al-yami, 2014)

Meemar (2014) claims that it has been implemented in 900 schools and Tatweer is in its third phase, however, he does not say how the third phase is different from the first and second phases. The literature on the TP is limited. Different sources report different results. The government documents (e.g. Ministry of Education, 2008) and reports of the Tatweer Holding Company (2008/2011) seem to have some bias and report the Tatweer as if it has been successfully implemented across Saudi Arabia. Some studies reported that the TP was still running (Al-yami, 2014, Al-Shibani, 2015). However, these studies also indicated that it might have changed a lot since it started in 2007. According to the literature, the TP in the beginning focused on technological changes and in its second phase this focus changed towards improving schools individually.

Research on the TP provides information on some areas of the Tatweer, but the curriculum change process has not been explored in detail (Wiseman et al., 2013). It is not clear how textbooks, learning content and learning environments and even teachers' training was developed. It is not clear what training the teachers received and how this training improved student learning and overall curriculum. This underscores the importance of my study which sought to explore these issues in more detail.

2.10 Other Educational Reform Projects in Saudi Arabia

A number of projects aimed at improving education in Saudi Arabia were introduced prior to the implementation of the TP. All the projects were initiated by the Saudi Ministry of Education focusing primarily on the school curriculum. In all these projects the curriculum was being interpreted narrowly as synonymous to textbooks. As a result, all the changes were aimed at improving textbooks in different disciplines. Each of the two main projects is discussed in the following section.

2.10.1 The Comprehensive Project to Develop School Curriculum 1998-2013

The Comprehensive Project to Develop School Curriculum (CPDSC) started in 1998 and focused on improving all textbooks in different disciplines. The government wanted to improve the content of the textbooks to include modern knowledge and reduce Arabic and religious content. This CPDSC concentrated on all primary and intermediate school subjects excluding maths and science. The CPDSC's vision was:

> to supply an educational, integral, balanced, flexible and developed curriculum to meet the students' needs, to accommodate local and international variables, to meet the requirements of national development plans and to reinforce Islamic values with patriotism and to emphasise moderation in Islam (MoE, 2011)

Through this project, in addition to improving student textbooks, there was also the production of teachers' books and activity books for both teachers and students. Prior to this project development, curriculum documents including teachers' books were not available, and this made it harder because the project team had to start from scratch to come up with the books. The idea of providing teachers with guiding textbooks that would assist and develop their professional work was a good initiative. One of the most significant changes in the curriculum that was brought about by CPDSC was the reduction of the number of subjects taught at different levels. This was because some subjects were integrated. For example, at the intermediate level, pupils were to be taught just 12 subjects

instead of 20 which they used to have in the past, and 11 subjects were to be taught instead of 9 in the sixth grade (Albishe, 2011). About 10 subjects were integrated together into three subjects. Firstly, the subjects like history, geography and patriotism in grades 4-9 were merged into one subject called Social Sciences. Another area that experienced curricular integration is Arabic studies. There were five separate subjects in the Arabic curriculum in some grades and less than five in others. The CPDSC combined them into just one subject called Arabic language. The final integration is for the Quran, the Quran's interpretation and the Tajweed. These subjects were integrated into two, which are the Quran and its interpretation and the Quran and its Tajweed (Albishe, ibid). The project finished in 2013 and has left textbooks being used in schools up to this day.

2.10.2 The Maths and Science Curriculum Reform Project (MSCRP)-2005-2013

The MSCRP is a collaborative work between three developers: The Arab Bureau of Education for the Gulf States (ABEGS), the Obeikan Investment Group and the McGraw-Hill Company. ABEGS was founded to 'promote cooperation and coordination in the fields of culture, education, science, information and documentation' (ABEGS, n.d). The Obeikan Investment Group promotes learning development in the Arab world (Obeikan Education, 2011) through the design and production of learning materials. The McGraw-Hill Company is one of the biggest and most successful companies in the field of publishing in education in the USA. McGraw-Hill's role in this project was to supply maths and science curriculum materials (MSCRP, 2010). The MSCRP relied completely on translating a globally famous curriculum chain and making it suitable for the members' environment, with, apparently, no involvement of teachers or students in constructing the new curriculum before testing it. This collaborative project concentrated on the maths and science textbooks for all educational levels. It was started in 2005 and was expected to be finished in eight years. Secondary curriculum science consists of three separate subjects: chemistry, biology and physics.

The MSCRP's (2010) aim was to develop the school maths and science curriculum comprehensively to raise the pupils' global educational competences and to prepare them for higher education. Its aim is to provide a secondary maths student's book written in the Arabic language but with numbers and maths terminology in English as this has become the dominant language worldwide. The newly developed maths and science curriculum emphasise implementing diverse pedagogical approaches. For example,

group work, active learning, problem solving and linking the content to actual life. Additionally, there is a tendency to involve technology in the learning processes as it is considered to be the best way to teach and to learn. The MSCRP provides electronic books, CD activities and additional website activities as well as the students' book. Teachers are provided with activity handouts and PowerPoint for lessons as well as a space for improving their professional capability with literature and articles. Students can also access an electronic version of the students' books and additional activities for each lesson.

I made reference to the other projects to highlight the complexity of the situation obtaining in Saudi Arabia's education landscape when the TP was introduced. As can be seen, the TP overlapped with some of the initiatives that were implemented in schools and the effect of this will be looked at in the discussion chapter.

2.11 Conclusion

This chapter has sought to give a brief historical background of the provision of Saudi education and their curriculum provision from earliest times to the recent attempt to broaden it as attempted under the TP. This project has been seen to be an ambitious curriculum innovation, which tried to raise the provision of Saudi education in schools to global level expectations. The extent to which this is achieved in practice will be addressed in the subsequent chapters, in particular, chapter 5 and 6. The next chapter focuses on literature review.

CHAPTER 3: LITERATURE REVIEW

3.1 Introduction

This chapter presents a review of the literature related to the topics under consideration in my study. Thomas (2009) emphasises the importance of conducting a literature review stating that: 'You are not an island. Your work must occur in the context of what is already known' (p.30). In the same vein, Wellington (2015) advises that: 'your job [as an individual researcher] is not just to mould your own brick but to slot it into the wall of existing understanding in that field' (p.55). As highlighted in the introductory chapter, my study involved exploring the implementation of a curriculum innovation called the Tatweer Project (TP) in selected public secondary schools in Saudi Arabia. I sought to understand how different stakeholders including school heads, policy-makers, teachers and students experienced the innovation. Prior to conducting my study, I engaged in a desk-based literature review on several topics relevant to my study which include the following:

- Curriculum: Conceptual framework
- Curriculum implementation and Curriculum innovation models
- Factors affecting the adoption of curriculum innovation
- Leading and managing curriculum change
- The role of teachers in curriculum development
- Technology use in the school curriculum
- Problems in the secondary education system in Saudi Arabia

Each of the topics will be discussed in the subsequent paragraphs. In carrying out the literature review, I made use of different sources that were found using search engines, library indexes, snowballing searching and use of my personal networking such as suggestions by the supervisors and colleagues. An effort was made to ensure that issues are discussed from a global, regional and national perspective.

3.2 Curriculum: Conceptual Framework

Given that, my study focused on issues related to the school curriculum, in particular, curriculum implementation, I started my literature review by looking at one of the key questions on a list of basic curriculum questions: "what is meant by the concept of

curriculum?" Hoover and Patton (2005) assert that: 'how one defines this term [curriculum] relates directly to how one approach [curriculum implementation]' (p.7). I felt that the two elements "what is curriculum" and "how is it implemented" are important in the discussion of my study findings. To answer the question "what is curriculum?" I looked at the definitions proffered by different authorities. It emerged that the concept of curriculum is not as straightforward as it seems. More than two and a half decades ago, Nelson, Jacobs, and Cuban (1992) observed that defining curriculum is a complex task given that authorities hold different views. The same view remains even today as we continue to have different views regarding curriculum. Some examples of the conceptions of curriculum are provided below. According to Stenhouse (1975), a considerable number of educators refer to curriculum as a set of subjects taught as part of the school syllabus. In the same vein, Wiles and Bondi (2007) highlight that some educators have a narrow view of curriculum as simply all the planned activities in the classroom. However, curriculum is also defined more broadly, that is, beyond subject content only. For instance, one of the curriculum theorists considers curriculum to be:

> what is successfully conveyed to differing degrees to different students, by committed teachers using appropriate materials and actions of legitimated bodies of knowledge, skills, taste and propensity to act and react, which are chosen for instruction after serious reflection and communal decision by representatives of those involved in the teaching of a specified group of students who are known to the decision-makers (Schwab 1983 cited in Dillon, 2009, p.343).

Schwab's (1983) conception of the curriculum shows that contrary to the notion of curriculum being equated to content, the concept is broad and includes other elements such as teaching methods and teaching and learning resources, among others. A similar view of the curriculum is provided by Nelson et al. (1992) who contend that curriculum is commonly viewed as learning activities that are put together by teachers and administrators with the view to ensuring that students can learn the desired knowledge and develop relevant skills and attitudes. However, viewing the curriculum in this way has been criticized for focusing solely on the planned or "intended" curriculum. It is believed that there are different types of curriculum. Reflecting on the different definitions of curriculum that have been developed over the past several decades, McKernan (2008) concluded: 'we have on [the] one hand a limited and on the other a more expansive notion of what is to count as curriculum' (p.11).

Nelson et al. (ibid.) identify different types of curriculum that are listed in the Table 1 below.

Table 1: Types of curriculum

Intended • Recommended • Written • Supported • Tested
Actualised • Taught • Learned
Unintended • Hidden • Null

Adopted from Nelson et al. (1992, p.202).

As can be seen from Table 1 above, the intended curriculum is further separated into different groups namely "recommended", "written", "supported" and "tested" curriculum (Glatthorn, 1987). The so called recommended curriculum is what ought to happen and this is normally expressed in very general terms. On the other hand, the written curriculum is meant to ensure the achievement of the school's educational aims and as opposed to the recommended curriculum, this type of curriculum is more specific and comprehensive. The available resources to implement the curriculum determine the supported curriculum. These resources include support materials such as audio-visual aids, texts, time allocations to the subject in question as well as administrative and departmental support. In evaluating the implementation of a curriculum innovation such as the TP, the available support will be crucial in determining whether the innovation at hand will be successful. The set of knowledge, skills and attitudes that are assessed constitute what is referred to as the tested curriculum. The assessment can be done by teachers through teacher-made tests or these can be in the form of standardised assessments made by examination boards run at national level. In this case, the tested curriculum reflects what the teachers consider to be valuable. From my own experience as a teacher, I observed that there is usually a tendency among students to focus on the examined material only and neglect everything else that is not examined.

The other form of curriculum called actualised curriculum consists of what is delivered and learned by the students. Curriculum and instruction are closely connected. The intended curriculum is delivered through instruction. Through the learning experience, students come away with the learned curriculum. Clearly, there is an important relationship between curriculum and instruction. The learned curriculum explains the changes in behaviour, knowledge and skills of the students. My study will assess through conversations with students, the impact of the TP on students' knowledge, skills and behavioural changes, if any.

Arguably, it is not just the intended curriculum that has an impact on students' behaviour, knowledge and skills. It is possible that students can be influenced by the unintended curriculum, which technically falls into what is known as the hidden and the null curriculum. Therefore, when defining the curriculum, it becomes important to consider both the intended and unintended types of the curriculum given that they both affect the students. The hidden curriculum involves aspects of education that are not explicitly defined and discussed but that bring about changes in students' behaviour, attitudes, skills and knowledge. During interviews with teachers, it is important to look out for any influences that the teachers might have on their students unintentionally. Lastly but not least, it is important to reflect on the curriculum that is neither planned nor implemented called the null curriculum by Eisner (2000). This consists of what schools choose not to teach, however, can be equally important to what they choose to teach. Eisner (ibid.) contends that sometimes teachers focus on specific areas of study they are used to teaching and leave out other areas that are vitally important for the students. As can be appreciated curriculum is defined differently. Some educators consider curriculum to be the content taught (Hosp, Hosp, and Howell, 2007); others see it as content, process and products (Bender, 2008) and others such as Eisner (2000) view curriculum as a broader set of activities that is planned with associated intended outcomes and acknowledges that much more may occur in the classroom that is meaningful and relevant even though it may be unintended.

In appreciation of the broad view of curriculum, Marsh (2009) put forward a curriculum theory which identifies three different aspects of the school curriculum which include: "planned curriculum", "enacted curriculum" and the "experienced curriculum". These three aspects are closely related to aspects of the intended and actualised curriculum discussed earlier on. The planned curriculum sets out what those with authority believe

is the most valuable knowledge that the students must be taught and therefore defines the aims and goals for this knowledge. When the curriculum is planned in this way, it could be referred to as the curriculum authority in which standardized guidelines give a formal structure of how the curriculum must be received by students (Campbell, 2006). Given that in most cases those in power, for example, the Government, considers education to be a 'prominent part of their economic and social policy' curriculum is understood as an expression or adoption of:

> situated enactments of teaching and learning and assessment in the classroom, and also a process in which particular selections, values and ideologies of the social and cultural whole are given a new status by their embodiment as official knowledge (Yates, 2009, p. 17-18).

As argued by Apple (2000), those in power have the onus to determine what can be considered as official knowledge. In other words, the planned curriculum serves political goals. It can be argued that the introduction of the TP was meant to serve the Government's political goals. Despite the Government's role in defining the planned curriculum, teachers play an important role at the implementation stage. Not everything in the planned curriculum finds its way into the classroom. Teachers can choose what they want to teach and what they want to leave out, hence, it becomes crucial to understand the role of teachers in curriculum implementation. As professionals, teachers use their professional authority to judge how to deliver the curriculum and evaluate it. Marsh (2009) makes it clear that what is taught in the classroom constitutes the enacted curriculum. In other words, the enacted curriculum is the curriculum, which teachers choose to deliver using their preferred pedagogical approach (Marsh, 2009). It is possible to find differences between the 'planned' curriculum and 'enacted' curriculum because the curriculum does not always get implemented as planned (Campell, 2006). Meemar (2014) and Alharbi (2014) argue that this difference is not found in Saudi Arabia because of the tight control of the content of the curriculum and the teacher's pedagogical styles. The teachers are monitored closely and expected to teach the curriculum without adding their own views or new approaches to teaching. It can be seen that in order for the teachers to enrich the curriculum they need to be given some freedom to trial their own ideas. The "experienced curriculum" refers to the experience individual students gain during their interactions with the teachers and school facilities (Marsh, 2009). However, in today's school environment, experienced curriculum does not have to be limited to the classroom activities. Learning is spread over the time the students spend in the school and outside of the formal classroom settings. This learning can take place through all the resources

the students use, including information technology and extra-curriculum activities (Kennedy, 2005).

The experienced curriculum in public secondary schools in Saudi Arabia has been criticised for encouraging rote-learning (Alharbi, 2014), dictation (Alharthi and Woollard, 2014), lack of use of technology (Al-Madani and Allafiajiy, 2014) and the learning of theoretical concepts without application (Shea, 2006). In addition, the public-school system is also criticised for the limited availability of extra-curriculum activities, the lack of variety in the activities (Almannie, 2014), and gender disparity (Alharbi, 2014). As a result of these felt problems, the government has been trialling different initiatives aimed at improving the curriculum and the students' learning experience. For example, the introduction and implementation of the TP is a project embarked upon by the government to enhance the quality of education provision in the public schools. This study will help to evaluate whether the planned curriculum was implemented effectively to impact positively on students as intended. A few decades ago, Smith (2000) proposed four approaches that are useful to understand the meaning of curriculum: The transmission of knowledge (the body of knowledge), the Product (to achieve certain ends in students), the Process, and Praxis. Figure 6 below illustrates the four approaches. Each view is explained in the subsequent paragraphs.

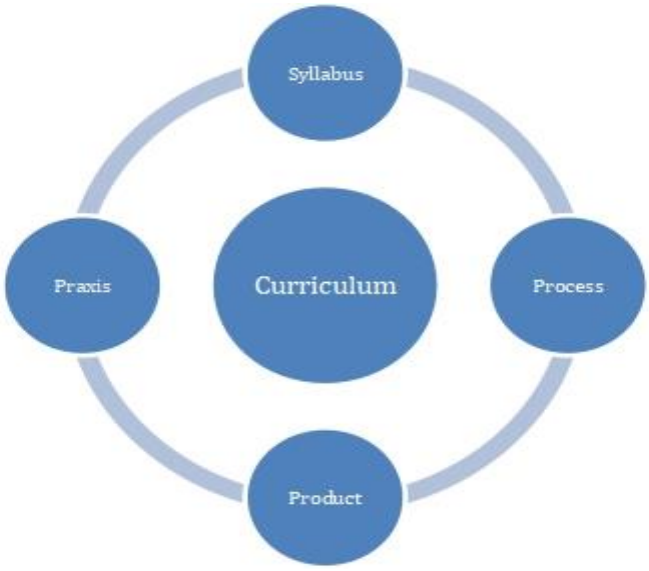

Figure 6: Different approaches to Curriculum (Smith, 2000)

Curriculum as a body of knowledge is the most common understanding of the meaning of curriculum. In this approach, the syllabus or contents of subjects are the key knowledge

that teachers "deliver" or transmit to students. This view is criticized because it is only concerned with the curriculum content (Kelly, 2009). Clearly, as discussed earlier on, curriculum is much more than content to be transmitted to students. It will be useful to find out how the term curriculum is conceptualised by the teachers involved in the TP, as this would have implications in the way they implement the project in schools.

The notion that curriculum is a product sees education as a technical exercise. According to Smith (2000), this view of curriculum originates from the work of two American writers –Bobbit (1918) and Ralph Tyler (1949). It is connected to the 'scientific management' movement of F.W Taylor. The scientific management style involves dividing labour into simplified jobs, controlling jobs and the working environment and the accounting of cost. When applied to education, educators decide what people must know to be able to work and live. Tyler's (1949) systematizing curriculum theory and practice asked the following fundamental questions:

1- What should the school's purposes of education be?
2- What educational experiences can the school provide in order to achieve these purposes?
3- How should educational experiences be organised?
4- How can we know whether the purposes are achieved?

The purpose of curriculum in Tyler's (1949) view is to achieve behavioural changes in students. Therefore, schools should design educational objectives to change student behaviour. There are some advantages as well as disadvantages in this approach. One of the advantages is that it makes it easy to standardise practice in education. However, the downside is that, if education is always a planned set of knowledge or activities, set in advance, students will not have any input into what is taught (Brooker and Macdonald, 1999). Furthermore, this view of curriculum offers very limited opportunity for teachers to change the content while at the same time restricting new knowledge creation that could result from interactions between teachers and students (Pinar, 2011). In the same vein, Tsafos (2013) criticises this systematic or technical view of curriculum citing that:

> experts' own theory and design the curriculum in every step and detail, and then call the educators to "consume" this single unique product, which is the same for all students, despite the undeniable particular features of each student population and educational context in which the curriculum is to be taught (p.42).

Similarly, Vallance (1982) argues that the curriculum as a product approach applies a scientific view to all areas of curriculum. According to Vallance (ibid.), 'the different

curriculum subjects cannot be generalized, measured, and assessed in the same way because, for example, art and geography are different from physics and chemistry' (p.3). Moreover, as Driel, Verloop, and Werven (1997) argue, innovation and creativity decrease drastically in a learning situation if the teachers are only to achieve some given lesson objectives for student learning to take place. Clearly, viewing curriculum as a product creates limitations to what both teachers and students can do.

The view of Curriculum as a process is different from the previous approaches (that is, curriculum as a body of knowledge and curriculum as a product). Curriculum as a process does not see curriculum as a written physical object that can be found on the teachers' bookshelves as it has been seen in Saudi Arabia but instead as the interaction of the students, the teachers and knowledge. Under the curriculum as process, teachers are able to exercise their professional judgments by critically thinking and acting in ways that are deemed appropriate to the demand of their practical interactions with the students in the classroom. Stenhouse (1975) produced a three-stage model to explain the processes in curriculum. Stenhouse (ibid.) argues that teachers must be able to: (1) plan courses, (2) empirically study the courses and (3) justify why a curriculum is needed. In the first stage of planning curriculum, the teacher develops principles for what needs to be taught or learned (content selection), how the content should be taught or learned (teaching strategy), in what arrangement should the content be taught or learned (principles of sequence) and set principles to see how weak or strong students are on each of the previous principles to know individual student capacity. It is clear here that teachers should play a pivotal role in curriculum development processes. The second stage has three parts. It involves the principles on which to evaluate student and teacher progress, guidance showing how feasible the curriculum implementation is for different contexts in the school, and information on how curriculum implementation varies in different school contexts and with different pupils and reasons for this variation. The third stage is the justification of the aim of the curriculum which according to Stenhouse (1975), does not remain the same all the time but should be open for revision and investigation. Curriculum from this perspective is different from the traditional view of curriculum as a ready-made package to be delivered or transmitted to the students.

Arguably, curriculum is in the language and on-going interactions between teachers and students without predefined objectives (Pinar, 2011). Teachers do not teach the same thing to every student. Teaching is not the same in different class environments for

students with different abilities. The content of the curriculum in the “Process model” is developed by teachers working together with the students. The students are not treated as objects to be acted upon or perceived as recipients of facts. Instead, they are active participants working collaboratively with their teachers in learning. This model makes teachers the leading educators and changes the role of teachers from consumers to active participants (Pinar, 2011). The involvement of teachers in curriculum development can be an advantage because of the rich experiences they bring; however, if the teachers do not have expertise in handling curriculum development issues, their involvement can affect the quality of curriculum development (Smith, 2000). It is, therefore, important to ensure that teachers are prepared adequately to deal with curriculum issues. Driel et al.’s (1997) discovery in the context of the Netherlands, indicate that a successful teacher-led curriculum model depends on three factors: 1) teachers' past experience, 2) the teaching situation in which teachers work and 3) the teachers’ vision of the ideal teaching situation. Driel et al.’s (ibid.) findings show that the better the teachers are trained and supported the more the innovative learning experience becomes. Therefore, the success and failure of Stenhouse’s process model depends on teacher quality. Moreover, Stenhouse’s Process model has disadvantages when it comes to the standardization for evaluation, as it will be difficult to achieve uniformity in an examination because the teaching process is different. However, a very important advantage of the process model is the student involvement in curriculum matters. Brooker and McDonald (1999) found that student involvement increased the quality of physical education in an Australian school. The students give ideas that teachers and other educators may not think of and are directly related to what they do every day.

Lastly but not least is the view of curriculum as praxis. This is a further development of the process model in which human emancipation becomes the major aim of the curriculum. Young (2013) argues that curriculum theory must be designed to empower humans by delivering new knowledge and ensuring that there is an opportunity to choose the desired career choices. Understandably, any education system in the modern days should be seen to work towards the achievement of these noble goals. It is therefore imperative that the curriculum planners should design a curriculum that offers opportunities for students to think and act freely. In this case, both male and female students should be presented with intellectually challenging knowledge and opportunities to develop skills, which are necessary in the society where they live and work. Does the TP offer a curriculum that enables students to feel free and to exercise their rights? The

study explores the students' experience of the TP and will therefore explore whether the project was designed to address the issues at the heart of the society that is seeking to compete favourably at global level.

In conclusion, I noticed that the concept of curriculum is defined differently in literature and there are different views regarding what constitutes a curriculum. In my study, the concept of curriculum is interpreted as:

> all of the educative experiences learners have in an educational programme, the purpose of which is to achieve broad goals and related specific objectives that have been developed within a framework of theory and research, past and present professional practice, and the changing needs of society (Parkay, Anctil, and Hass, 2010, p.3).

This definition has been embraced because it captures a broad view of curriculum as opposed to the limited view of curriculum as synonymous to subject content only. The TP was designed with the aim to address a number of issues that were being faced in the public schools. This included not only the content but also teaching methods as well as extra-curriculum activities among others.

A number of curriculum approaches have been discussed above. While there is no single best approach, the different approaches relate with each other to some extent. For example, "curriculum as a process" is similar to "the experienced curriculum" because the two ideas refer to the student knowledge gained when teachers interact with them. "Curriculum as a product" can be linked to "the planned curriculum" because these two ideas are similar in the way they can be used in curriculum development to set learning aims, objectives, standards and guidelines. However, Smith's (2000) and Marsh's (2009) models are different in many ways. Smith's "curriculum as product" is more strictly structured than Marsh's "planned curriculum". The latter can have broad guidelines leaving the rest to implementers. Equally, Smith's "curriculum as process" as described by Stenhouse (1976) focuses only on the teacher-student interactions whereas Marsh's "experienced curriculum" may include many different pedagogical techniques used during such interactions. The different curriculum frameworks provide useful insights for the analysis of the implementation of the TP in public secondary schools in Saudi Arabia. This is because each of these models complements one another in terms of the analysis of the different aspects of curriculum under the TP. For example, Marsh's (2009) model lacks the dimension of emancipation, which is well elaborated by Smith's (2000) model. It remains to be seen during the course of the study the extent to which the TP sought to

achieve emancipation. The existing curriculum in Saudi public schools shows that it is differentiated along gender lines. For instance, girls and boys go to different schools and they also learn different subjects as has been discussed in chapter 2. It can be argued that the curriculum planners in Saudi Arabia have not been keen to embrace a curriculum that is emancipatory in the past given the extent to which they continued to promote rote learning in their schools as well as maintaining gender boundaries in education. For a long time, gender differences in Saudi Arabia have been interpreted as part of the culture, however, an effort to change this view has been observed since King Fahad reformed education in Saudi Arabia, bringing women to the same level of educational opportunity as men in the 1980s albeit in separate institutions. Since then, the popular support for freedom in education and career choices are increasing (Alharbi, 2014). The implementation of the TP might as well be another indication of the change in the right direction in the country's education system.

The following section focuses on defining curriculum implementation and a discussion of the various curriculum intervention strategies such as 'top-down', 'bottom-up' and 'partnership' approaches.

3.3 Curriculum implementation and curriculum innovation models

As part of my literature review, I sought to understand the different approaches used in the implementation of a curriculum innovation. I felt that this would be useful in terms of supporting or refuting my assumptions of what could have been done for the successful implementation of the Tatweer Project. Firstly, I looked at how curriculum implementation is defined in literature. According to Fullan and Pomfret (1977), curriculum implementation refers to 'the actual use of an innovation or what an innovation consists of in practice' (p.336). Therefore, when talking about curriculum implementation in my study, this is basically what I will be referring to, that is, the translation of the curriculum plan into practice.

Discussions around curriculum implementation always appear to involve a focus on the different strategies or approaches used to implement the curriculum innovation as well as factors that affect the successful implementation of an innovation. In this section, an effort is made to discuss the different approaches to curriculum implementation and the subsequent section 3.4 will discuss the factors influencing the implementation of a curriculum innovation. Arguably, curriculum implementation is the critical stage in the

whole process of the curriculum planning cycle. If this is not done properly, it explains in many cases why many curriculum initiatives fail to take root. According to Marsh (2009) many curriculum policy texts and materials have been developed in different parts of the world, but they remain stored on shelves for many years unimplemented. Marsh (ibid.) further highlights the complexity of curriculum implementation indicating that it involves bringing together the interests of different stakeholders into the reality of the classrooms. For instance, in the case of the TP, it involves the interaction of different stakeholders including policy-makers, school heads, teachers and students. The success of implementation would depend on how the interests are negotiated between the parties and the negotiations depend on: 1) the fidelity of curriculum, 2) adaptation and 3) mutual adaptation (Marsh, 2009). The fidelity of the curriculum refers to the 'adherence to prescribed details in implementing curriculum' (Marsh, 2009, p.94). Adaptation means the element of teachers' modifications to the curriculum to suit specific classroom settings and changing educational settings (Fullan and Pomfert, 1977). Mutual adaptation occurs when the curriculum developers as innovators agree with the teachers, as users, on the areas of modification (Dalin and McLaughlin, 1975). Each of these three elements would be taken into consideration when decisions are being made to ensure that a shared position is reached by all the key stakeholders. In addition, these three elements can also influence the intervention strategies for implementation of the curriculum policy or innovation. There are three different approaches that can be embraced for the implementation of a given curriculum policy or innovation and this includes top-down, bottom-up and partnership (Macdonald, 2003). It is true that the approach used to implement a curriculum innovation can affect the way stakeholders respond to the curriculum (Alnahdi, 2014). My study sought to understand how the TP was implemented with a view to identifying the factors that might have contributed to either the success or failure of the innovative project.

3.3.1 Curriculum implementation strategies

One of the strategies used for curriculum implementation is the top-down approach, also referred to as the "teacher-proof curriculum" (Macdonald, 2003). The aim of this strategy is to minimise teachers' influence over curriculum design and delivery. The top-down approach to curriculum implementation is in line with the "Curriculum as Product" view, where by the objectives, content and assessment instruments are all assembled by experts who are remote from the schools where the curriculum is delivered (Fullan, 1972; Tsafos, 2013). The challenge or difficulty posed by this is that the designed curriculum in most

cases is not sensitive to the realities of the classroom. If the teachers are not involved in the process of curriculum development, it is usually difficult for them to implement the curriculum effectively. Commenting on this, Fullan (1991) argues that even though the curriculum may be designed or developed from the top cadre of a nation's educational administration, it is very doubtful that any curriculum change can totally control or prescribe how the teachers must deliver the curriculum content to students. In other words, it is highly likely that teachers will avoid the prescribed curriculum and do what they consider to be effective. This explains why most of the curriculum innovations are not implemented successfully. Fullan and Pomfert (1977) state that no matter how structured the curriculum is, teachers will always have a way to skilfully emphasise or de-emphasise the contents and built-in sequence of the curriculum. Clearly, this challenges the notion of a teacher-proof curriculum. Guidelines can be provided but as explained earlier, teachers will have their influence regarding what ultimately finds its way through in the classroom.

Macdonald's description of the top-down approach, how and when it happens is criticised by others. For example, Fullan and Mundial's (1989) literature review of curriculum implementation between 1950s and the late 1980s shows that the top-down approach started at the end of 1980s under the theme of standardisation of implementation. According to Fullan and Mundial (1989), the 1960s and 1970s was a time when teachers were allowed to bring changes to the curriculum and they enjoyed the luxury of including what they wanted in the curriculum to suit the institutional settings. Marsh (2009) also argues that the top-down approach started in the late 1980s in Western countries and ever since it has never stopped because all the curriculum changes have increased the prescription and control of teachers. For example, in the UK, the Conservative Party established a national curriculum framework under the Education Framework Act in 1988 and after that, the Labour government established national policies such as the National Literacy and Numeracy Strategy (Fullan and Earl, 2002). These policies standardised how education is evaluated in all schools across the UK. If the curriculum is designed by experts who are well informed about the needs of the different stakeholders, I think that it actually helps to ensure that a good standard is established. However, it can be argued that such a strictly rationalised approach can put pressure on teachers and reduce their individual autonomy and creativity while teaching (Marsh, 2009). In the same vein, teachers and students are evaluated on common evaluation criteria that may not be in the interest of students (Fullan and Earl, 2002). However, Fullan (2000) contends that the

strategies have been very successful in increasing student numeracy and literacy in the UK. Although they too argue that the top-down approach may be good to start with, they note that future investments must be made on other things such as capacity building, creativity and collaboration (Fullan and Earl, 2002). Clearly, if there is not enough time to consult all the relevant stakeholders, the top-down approach appears to work very well as solutions can be designed and implemented over a short period of time. As highlighted earlier, the top-down approach works very well in situations where there is a shortage of experts in curriculum development. In this case, a small group of experts can come together and develop a curriculum they consider to be useful. The downside of initiating change from the top is that the chances of the change suffering "tissue rejection" are very high. Carless (1997) discusses Hong Kong's target-oriented curriculum initiative that failed to get institutionalised because teachers did not implement reforms initiated by the centralised government agencies. At the implementation stage, teachers need to understand the reform and appreciate the benefits otherwise; they will not implement the change. Parsons (1977) observes that: 'the promotion of change in teachers' conceptions of the subject, teaching methods and curriculum planning undoubtedly takes time-more time than most projects have if most commentaries are to be believed' (p.45). The million-dollar question is, "when changes are initiated, is enough time given for all stakeholders to get to grips with the change?"

In the United States, the Clinton administration promoted national performance standards for all schools in the country. It was in 2001, that the US senate passed the No Child Left behind Act, which was later, renewed in 2004. According to this Act, every state was expected to develop standards for Science, English language and Arts, and test students based on the state tests (Hargreaves and Shirley, 2009). The US government's explanation for establishing a national curriculum was that many people in the country were convinced that the school system did not produce well educated students and that the quality of education in the country had decreased (Marsh, 2009). However, Hargreaves, Earl, Moore, and Manning (2001) argue that such national standards allow curriculum developers and politicians to control the performance and competence of teachers. The issue of control can be raised in any country. In this case, Saudi Arabia also has a centralised curriculum system and the government champions most of the education reform programmes. How do the teachers, students and school heads react to the reforms that come from the top? A number of criticisms have been levelled against the top-down teacher-proof curriculum package particularly in Western countries due to the research

findings on its inability to achieve its intended objectives (Macdonald, 2003). It was noted that there was a mismatch between the conception and implementation of knowledge because teachers, the school environment and the various social, economic and cultural contexts were not included in the curriculum package (Ibid, 2003).

As an alternative to the top-down approach, the School-based curriculum emerged from Australia and the USA giving teachers some degree of control over curriculum development and implementation (Carr and Kemmis, 1983). Hargreaves and Shirley (2009) argue that the bottom-up phase started at the end of the Second World War and was actively adopted until the 1980s. They described the bottom-up movement as a result of social movements and growing calls for civil rights after the war, which gave more freedom and flexibility to the teachers. Fullan and Pomfert (1977) promoted the bottom-up approach in their research work, and they are the most influential supporters of this approach (Marsh, 2009). They researched 293 curriculum implementation projects in different areas of the US in a study named "the Rand Study". Their finding was that innovation was more successful when the curriculum was not strictly specified, and mutual adaptation increased the chances of success in the implementation of a curriculum innovation (Fullan and Pomfert, 1977).

However, the opponents of the bottom-up approach argue that school teachers in general, do not understand what the curriculum should be like and often do not even have the skills of how to deliver curriculum in the way in which it is intended. Therefore, the enacted curriculum should be closely matched with the planned curriculum (Ariav, 1988). Teachers, therefore, must be trained and be clear on how to interpret the curriculum for its effective implementation (Ariav, ibid.). In comparison, Fullan (2000) argues that a fidelity of use approach that develops curriculum top-down could kill teachers' creativity, assuming that teachers cannot add anything from their previous experience. Therefore, curriculum could miss the chances of getting valuable inputs from teachers.

Macdonald (2003) claims that school-based curriculum (SBC) development increases teacher empowerment and democratisation. This is true given that, in this approach, the teachers have an opportunity to participate in discussions of issues to be considered in developing the curriculum. It is possible to address felt needs if teachers who are the frontliners in curriculum implementation are involved. However, Marsh (2009) thinks that school-based curriculum development and implementation can never happen because

it would be highly unlikely that a school itself can have full autonomy over its responsibilities and authorities. On the other hand, schools that have school-based-curriculum development operate in a wider social and political environment. In the UK, for example, Marsh (2009) opined that the School-based management (SBM) is a rhetoric that politicians use to show that "decentralisation" or "individual focus" in learning is advocated while they also have curriculum standardisation and accountability on top of their agenda. Burrow (1994) points out that SBM is an excuse for reducing government expenses and diverting the responsibilities from the managerial level to the operational level. According to Burrow, the SBM model is close to decentralisation in corporate industries, in which responsibility and accountability are transferred to the lower levels. Although the SBM model sounds emancipating for teachers and students, it is used by politicians to re-centralize education and match education with economic trends (Burrow, 1994).

Evidence from research studies conducted on SBM reveal a mixed picture. On one hand, it is shown that SBM is successful, however; on the other hand, many studies show that it was not successful. For example, in the US, a comparative study of twelve SBM and non-SBM schools showed that there were no extra benefits of the SBM model over the traditional models (Rossi and Freeman, 1993). Marsh (2009) asserts that: 'a number of descriptive accounts of the benefits of self-managing schools have been published. Yet, despite the positive rhetoric it is difficult to find any research-based evidence on the direct or indirect benefits of SBM' (p.139). I could not find any literature on the use of the bottom-up approach in the Middle East region and as a result, I relied heavily on literature from the western countries.

The third strategy that can be embraced in the implementation of a curriculum innovation is partnerships. According to Macdonald (2003) the partnerships approach to curriculum development started when teachers developed the curriculum, but innovation was still lacking in some schools because of the different skills of teachers. This approach began between the 1980s and 1990s in Western countries, and in this approach, many stakeholders take part in the process of curriculum development, for example, researchers, teachers, curriculum experts, parents, teacher-trainers, governments and professional organisations (Macdonald, 2003).

Fullan (2000) defines partnership as collaboration between different stakeholders who have an interest in curriculum development and implementation. Marsh (2009) points out that teachers' modification of curriculum in the class will be very difficult if they are not part of the curriculum development process. Fullan (2003, 2000) asserts that mutual adaptation could be the best way of undertaking curriculum development and implementation. They argue that stakeholders such as politicians influence curriculum implementation and that the best approach is to blend the top-down approach with the bottom up approach and to welcome the demands of the different stakeholders. Hargreaves and Shirley (2009) argue that with all the positive aspects of this approach, in reality it does not work in the way that Fullan (2002/2003) described it in theory. Some of the reasons of a dysfunction in this approach are the imbalanced views of different stakeholders that finally makes curriculum implementation either autocratic (influence of governments) or technocratic (influence of technical experts) (Hargreaves and Shirley, 2009). However, Hargreaves and Shirley (ibid.) have found some benefits of the approach. For example, the approach tries to strike a balance between curriculum implementation and autonomy/ accountability, state assistance and market competition, participation of the government and that of the users of the curriculum.

Hargreaves and Shirley (2009) proposed a fourth approach to curriculum implementation. This approach was derived from the partnership approach but has advanced in many ways. The characteristics of this approach are partnership and purpose, and these are based on six pillars: 1) an inclusive vision for education, 2) public participation, 3) achieving goals through investments, 4) educational responsibility for all educational institutions, 5) the recognition of the student voice, and 6) life-long-learning. There are only two countries in the world that have achieved these goals – Finland and Singapore. Hargreaves and Shirley (2009) argue that these objectives must be achieved through professional collaboration, high quality teachers, and creation of lively learning communities.

3.3.2 Curriculum implementation in Saudi Arabia

In Saudi Arabia, the top-down approach has been there before and after the country was formed as one unified country. During the Ottoman Empire, the school curriculum was developed by the government, and after attaining independence, the government introduced the national curriculum which was developed using the Egyptian model. It is argued that Saudi has always had a very strict version of the top-down approach and this

has always been the case because of the government's influence on every level of education and on the curriculum (Alharbi, 2014). However, with the growing demand to make the school curriculum and public schooling more productive, the TP involved participation of different stakeholders in curriculum development and implementation. However, there is not much evidence as to whether the TP did actually have such involvement. Similarly, it is not known how implementation of the TP changed student learning and teachers' pedagogical approach. The aims of the TP included changing the curriculum and the development of curriculum from a top-down approach to a partnership approach. Whether the TP managed to do so or not and how the curriculum users felt about this change was the key question this study sought to establish an answer to.

Similar to issues faced elsewhere in the world, the curriculum implementation process in Saudi Arabia is modelled around the five different dimensions highlighted by Fullan and Pomfert (1977) namely: 1) material, 2) structure, 3) behaviour/role, 4) knowledge and understanding and 5) value internalisation. Arguably, all of the five dimensions would not necessarily be visible in every educational change. When the TP was launched, it sought to address all the five dimensions of implementation (Tatweer, 2010), and therefore, the problems addressed in this study were also connected to the five dimensions as Table 2 shows.

Table 2: Five Dimensions of Implementation andthe TP

Material	**Structure**	**Behaviour/Role**	**Knowledge and understanding**	**Value internalisation**
Electronic resources, Introduced applied science and laboratory lessons, Introduced new science subject, increased the substance of scientific subjects, Introduced module system at secondary level	Targeted the introduction of new facilities for teachers, the process of curriculum change cycle (from policy-makers to the students)	Aimed at providing training teachers, Teacher and Principal participation, Teaching pedagogy	Promoted creative thinking, knowledge application, civil education	It is not clear how well the Tatweer is internalised. This research explores this.

Source: Adapted from Fullan and Pomfert (1977)

As can be seen from the Table 2, bringing about a curriculum change is not an event but a process (Fullan, 1991). A number of issues have to be dealt with and this takes place in different phases namely adoption, implementation and institutionalisation. The adoption

phase involves the implementers taking a decision whether to proceed with the change or not. As highlighted earlier, the implementation phase entails putting the reform into practice. During the last phase, institutionalisation, the change becomes part of the system or disappears. This study sought to understand the implementation phase of the TP. However, Marsh (2009) contends that Fullan's (1991) model which focuses on three phases only, takes a very simplified approach towards innovation citing that dividing the dimensions of innovation so simply can be difficult due to the complexity of curriculum. For example, material, structures and behaviour can be linked to teacher's ability so much so that these can be explored holistically. Teachers bring their own experiences and modifying educational environment alone may not improve the learning experience. Arguably, the three dimensions can be combined and without simple division it can be assessed how well the whole system works. My study will make use of Fullan's (1991) model given that it captures everything involved in the implementation of the TP.

3.3.3 Curriculum innovation models

I examined the different approaches that can be adopted to effect educational change with a view to understanding the approach that might have been employed for the successful implementation of the TP. Literature on curriculum development shows that there exist several approaches including: 1) research, development and diffusion model, 2) the social-interaction model, 3) centre-periphery model, 4) problem-solving model and 5) the linkage model (Havelock, 1970). Following below is a description of some of the main models.

The Research, Development and Diffusion Model

This model assumes a straight sequence in the application of innovation. The sequence is to find out the problem, develop solutions and implement within the system. The model needs planning in advance and identifying who will do what. The experts in the field do the planning. Fullan (1972) maintains that there is a weakness in this model because the innovation becomes an end rather than a replaceable means to an end. The role of the user is also restricted in this model.

The Social Interaction Orientation Model

Havelock (1970) explains this model as a natural way of diffusing innovation. Innovation spreads through a system without any planned change. The individuals engage in social relations and their behaviours are influenced by one another, so that they accept new ideas

depending on how well a new idea is accepted in the network to which they belong. Educationists have informal relationships and form groups and their adoption of a new idea will depend on the group beliefs. Fullan (2003) argues that in order for an innovation to be implemented, a formal intervention helps create urgency and people taking change seriously, whereas informal interactions are important in making sense after the introduction of change. The disadvantage of this model could be its overemphasis on informal interactions. However, change involves informal and formal interventions (Marsh, 2009).

The Problem-Solving Model

According to Havelock (1970), this model begins with the user when he /she identify a problem and innovation becomes the solution for that problem. This model is different from the other models because it is the participant who will search for a possible innovation as a solution for the problem and who will test if the solution is reliable. However, a policy-maker or a technocrat might question if the users can be fully aware of the solutions required for their own problems (Ariav, 1988). This model is also what Kelly (2004) refers to as the school-based curriculum. It is the opposite of the centre-periphery model, a model that has been criticised widely for denying the teachers the opportunity to participate in the curriculum design process. The downside of this way of introducing a curriculum innovation is that teachers may not find it easy to implement an innovation that is not compatible with their own expectations. The views of many educators are represented categorically by Bloomer (1997) who says:

> Curriculum development can no longer proceed on the assumption that prescriptions count for all and that teachers and students are little more than technicians and consumers in the process; rather, curriculum must be planned in full recognition of the essential contributions which teachers and students make to their final constructions. They must be planned around those contributions (p.188).

Clearly, it can be speculated that embracing a centre-periphery approach discourages the teachers to make use of their professional experience and expertise in curriculum development and this in turn, may cause lack of commitment to the particular curriculum innovation.

Concern-based Adoption Model (CBAM)

Hall and Lock (1978) categorised how people adopt innovation at various levels of change. This model aims to help people and the management to find out the appropriate

strategies by assessing at what level individuals adapt to change. The individuals rate themselves on a questionnaire called Stages of Concern and develop a profile. When the profiles are made, a suitable strategy is developed to suit the needs of the individuals. The advantage of this model is that it measures acceptability of change at individual level, but the downside is whether a pre-designed questionnaire can gauge context-based user acceptability (Marsh, 2009).

Mutual adaptation model

McLaughlin (2004) developed this model in response to the notion of 'adoption' of innovation that other models address. McLaughlin (ibid.) argues that education policy and educational organisations must work together in a process which is of mutual benefit. They must adapt to each other and the implementation process should include various actors such as teachers and students. Fullan (2002/2003) argues that this model is the most successful model of curriculum development. The advantages and disadvantages of this model have been discussed in the bottom-up, top-down and partnership curriculum change implementation strategies. Hargreaves and Shirley (2009) believe some countries like the USA and UK make use of this model, which has great potential to develop education. Alnahdi (2014) argues that Saudi Arabian public schools and government must look for ways to implement mutual adaptation and invest resources towards developing the public education system. Clearly, mutually beneficial initiatives can make a big difference, as the parties will work towards achieving their goals, thereby sustaining the innovation.

The models discussed here explain how differently an educational change and innovation can happen. There is no single correct model for educational innovation. Fullan's (1972) model puts the user at the centre of innovation and assumes a total bottom-up innovation, which has been criticised by other authorities who think that users may lack the expertise to bring about desirable changes. The majority of the models, such as the diffusion model and the social-interaction models, place emphasis on the human capital and the role of social interactions in promoting and institutionalising innovations. The mutual adaptation model seems to be arguably successful and has potential to transform education in different contexts. As can be seen from the description of different curriculum innovation models, a choice has to be made of the most appropriate approach to effect the educational change at hand. Although it can be argued that the innovations themselves possess attributes that either promote or inhibit their adoption, it is also true that the nature of the

innovation model embraced can also influence the extent to which the users can adopt the change. Change is always constrained by a number of factors as discussed in the following section.

3.4 Factors affecting the adoption of curriculum innovation

As indicated earlier, my study sought to understand the implementation of the TP. Consequently, I conducted a literature review to support or otherwise my assumptions of factors influencing the adoption of such a curriculum innovation. Fullan (1982) highlights the importance of ensuring a good understanding of the factors that affect the change process. He argues that without a thorough understanding of the factors influencing the change process, it is difficult to implement curriculum innovations successfully. A decade earlier, Fullan (1972) stated that, 'most educational innovations require social system changes [in roles, role relationships, and organisational forms]' (p.2). Fullan (ibid.) considers that both the areas and need of change must be identified at the user level as shown graphically in the Figure 7 below.

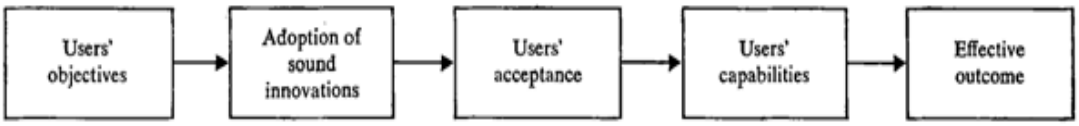

Figure 7: Elements of Effective Educational Processes at the User Level

The above Figure 7 shows how the elements in the educational change process at the user level are linked to produce an effective outcome. The model starts with the objectives of change as relevant to the users. These objectives should emerge from interaction with the users because they are the people whose curriculum would be adapted to the innovations and finally accept changes in their capabilities. According to Fullan (1972), 'the model of change whereby innovations are developed external to schools and then transmitted to them has led to no significant change at the user level' (p.1). He explains further that 'this means that teacher-proof standardised or programmed innovations are not appropriate for many educational goals' (ibid, p.2).

In a study conducted by Williams and Williams (1994) focusing on understanding the factors influencing the embracing of a new curriculum, several factors were identified, and these include:

1. Quality of innovation: the new curriculum innovation should have attributes that attract the users. It is important for the teachers to have a sense of ownership of the innovation, hence, the need for them to participate right from the beginning of the change process so that they would be highly committed to the new curriculum innovation.
2. Access to information: teachers and other staff involved in implementing the curriculum innovation should have access to information to ensure that they are on the right track.
3. Support of the leaders: The champions of the curriculum innovation should engage with the teachers and students to show their support and promotion of the new curriculum change. This can potentially encourage adoption of the innovation.
4. Teacher advocacy: Teachers' involvement can help to encourage trialling of new methods and innovative approaches to teaching.
5. Pupil perception: If pupils are engaged in the decision-making process, the chances for them to develop positive attitudes towards the change are very high.
6. Linking agents: the work to bring about change should be a shared responsibility, that is, all the relevant stakeholders should meet to discuss and work closely to identify solutions to problems and challenges.
7. Community involvement: Consultations with community leaders are helpful to ensure that the curriculum innovation addresses the community needs.
8. Availability of government or other funds: there has to be adequate funds to support the changes, for example, training workshops and other logistical issues that need financial stability should be catered for in the budget.
9. Problem solving orientations: there should be provisions for tackling any problems that emerge during the implementation of the curriculum innovation.

Other determining factors are discussed in literature, for example, leadership. Fullan (2006) emphasises that it is important to ensure that effective leadership is provided if educational change is to be a success. He asserts that: 'the way to change systems is to foster the development of [leaders] who are system thinkers in action' (p.113). Leaders should provide support to guide teachers and students in the process of introducing and embracing a curriculum innovation. It is important for the leaders to be enthusiastic about the innovation so that they can motivate the users of the same. For instance, in the case of the TP, the curriculum innovation is coming from the Ministry of Education; therefore,

the policy-makers should provide sound leadership to the school heads and teachers to ensure the project is implemented successfully.

For the successful implementation of an innovation, Ely (1999) indicates that the users of the innovation should have knowledge and skills necessary to employ the innovation. This means that some training should be provided to the teachers to ensure that they are familiar with the skills and knowledge needed for the implementation of the innovation. This might call for systematic meetings to discuss the aims, content and pedagogical issues, among other things. The introduction of the TP in public schools in Saudi Arabia involved the use of new technologies. In this case, teachers would have required technical support throughout the implementation of the innovation; otherwise, it would be difficult for them to embrace the change. Closely linked to capacity building is the idea of ensuring that participants are rewarded or incentivised to employ the innovation. It is easy for users to continue using the traditional approach if they do not perceive any tangible benefits of changing their practice.

One of the seminal works on factors influencing the adoption of an innovation is that of Rogers (1983). In his work, Rogers (ibid.) identifies attributes of an educational change that affect the decision to adopt an innovation. These include the relative advantage of the innovation, compatibility, complexity, trialability and observability. In addition to these attributes, Rogers (1983) also highlights the characteristics of an individual or group that can influence the rate of the adoption of the innovation. Five different groups have been distinguished and these are: innovators, early adopters, early majority, late majority and laggards. Each of these groups possesses social and psychological characteristics that might explain why an innovation is successful or not. The Figure 8 below shows the five-adopter categories that approximate a bell-shaped curve within a social system.

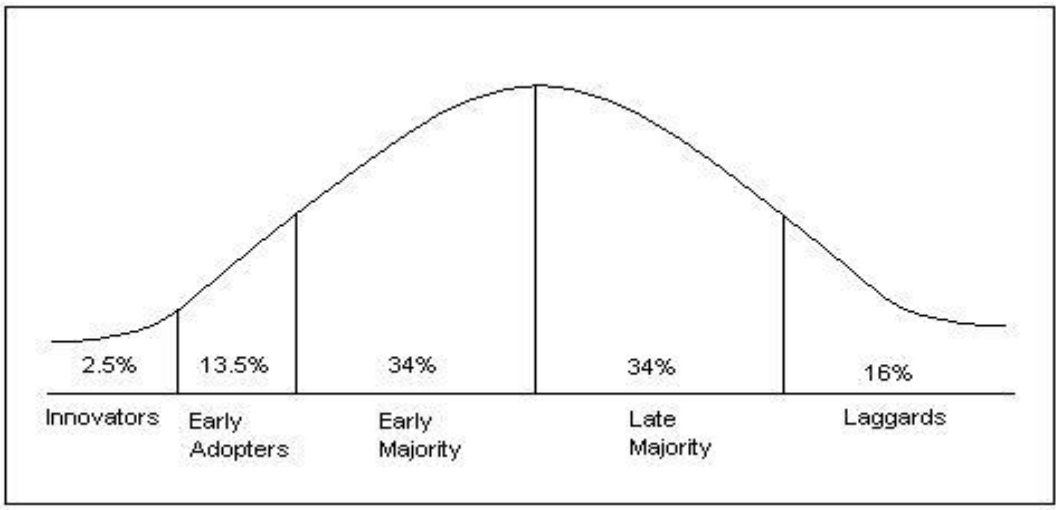

Figure 8: Rogers' bell-shaped curve of innovation diffusion

Source: Adapted from Rogers (1983, p. 247).

The innovators are the small group of individuals to adopt an innovation. This group is then followed by the early majority who might require a little bit of extra time to understand the innovation before they adopt it. The late majority are those who adopt the innovation after the average members of the social group have done so. In most cases, the individuals in this particular group are skeptical. The last group called the laggards tend to be those individuals who adopt the innovation right at the end. When exploring the implementation of TP, these five categories and their different social and psychological characteristics would be relevant in my analysis of factors influencing the adoption of the innovation. In the case of my study the individuals and groups in this model could mean individual teachers or groups of teachers, policy makers or school heads as each one possesses characteristics that can constrain the implementation of the innovation in the public schools.

3.5 Leading and Managing Curriculum Innovations

Literature reveals that leadership constitutes one of the crucial factors influencing school effectiveness (Marzano, Waters and Mcnulty, 2005). This implies that for school projects such as curriculum innovations, there have to be effective leaders with the ability to lead and manage the change process successfully. Arguably, leading change requires knowledgeable leaders who can think strategically for positive change to be achieved. This view is further buttressed by DeMatthews (2014) who observes that for a school to function effectively, it is important to have effective leadership in place. In different ways, the school head is the most important person in the school because they coordinate activities that support student learning. In the case of curriculum innovation, the school

head plays an important role. Commenting on the pivotal role of the school head Chaudhary (2015) asserts that it is difficult to achieve the successful implementation of the curriculum if there is weakness in the school leadership. The school head should play an important role in supervising the process. The school head can achieve this by deploying staff, allocating enough time to each of the subjects taught in the school, ensuring that adequate materials to support teaching and learning activities are provided as well as making sure that the school environment promotes teaching and learning to take place effectively.

Clearly, the school head cannot act alone to achieve the successful management of change in a school. The need to ensure that the school head engages staff at different levels has been discussed in literature. Lambert (2002) contends that it is no longer tenable that one person can be the only one answerable to everything that goes on in a school. I think this is a call for the school head to be able to make use of the experience and expertise of other teachers in the school in order to achieve success. In the same vein, Bush and Glover (2013) argue that it is impossible for school heads to manage all aspects of their schools. Clearly, leadership should be viewed as a shared or community undertaking, that is, everyone in the school should participate actively in providing leadership and management of instructional activities as well as other activities such as curriculum change. Brundrett and Duncan (2015) talks about the need for school leaders to promote distributed forms of leadership where everyone in the school is empowered to lead curriculum related activities. In a way, the type of leadership that school heads should embrace is a democratic or participatory as opposed to dictatorial type of leadership. The school heads should be in a position to provide good direction to ensure that the projects carried out in schools do not fail. This view is echoed by Duignan (2007) who posits that the role of the leader in distributed leadership model is to provide a value-driven vision for their staff. Hailey (2006) describes this type of leadership as ‘a social process in which everyone is engaged’ (p.7).

If well-defined leadership structures are put in place, it is possible to lead curriculum innovation, which enhances students’ learning experience. The school leaders or curriculum leaders per se, should engage in research prior to adopting and implementing curriculum innovations to ensure that whatever curriculum innovation they embrace will be relevant to their community. This implies that the curriculum change process should involve all the key stakeholders right from the onset even if the innovation is externally

driven. For school-based curriculum, it is easy for the school leaders to take a leading role but if the innovation is coming from outside the school, there has to be a mechanism that helps to ensure that the school leaders are involved. Otherwise, if there is no participation of the school leaders, the success of the innovation can be questionable. Commenting from their study findings, Brundrett and Duncan (2015) assert 'that a curriculum innovation is more likely to be successful when:

- Teachers and school leaders see the potential benefits for pupils, their professional satisfaction and for the school community as a whole
- All school personnel are committed to and believe in its underlying values
- All teachers and leaders are involved in the process of innovation from the initial idea to its implementation and review
- Teachers trust and respect the leadership team
- All school staff are able to see the benefits and gains made by the pupils
- It is integral and closely interrelated to the short-term aims of the school development programme
- It is school-created and school-driven and is less likely to be sustained when it is derived from published schemes of work, materials, or programmes of learning which are external to the school' (p. 760).

The school leaders should ensure that their school staff could see the whole curriculum innovation process as a chance to be creative and to do things differently in their practice. In a way, the school leaders should create an enabling environment in which the innovation is built into the school's leadership structures and all other activities including professional development, planning and monitoring systems. According to Alotaibi (2005) school leadership plays a vital role in leading change by defining a way for the organisation and finding a motive for change. Similarly, Hannagan (2005, p. 5) maintains that the role of the leader 'is to organise, supervise, and control people so that there is a productive outcome to work'. The school heads play a vitally important role in schools as development agents with the responsibility to lead and supervise teachers. It is therefore important for them to be able to make developmental decisions that would facilitate change in the school.

In the first place, the school leaders should be convinced about the change in order for them to persuade their fellow teachers and other school staff to embrace the change. In the case of the TP, the school leaders should be at the fore-front in terms of knowing how to implement the project successfully and the intended benefits of the project to both

students' learning and the wider school community. Atawy (2004) outlines some important considerations that school leaders should bear in mind when change occurs in their institutions and these include the need to avoid using pressure methods on individuals to accept change, individuals should be trained before trialling the innovation and the need to evaluate the innovation during the implementation process. For successful leadership and management of change, school leaders are advised to: 'understand the organisational culture of the school, build capacity for learning at the local level towards systemic improvement' (p.2).

Despite the effectiveness of school leadership, it is still possible to encounter some resistance to change within the school. A number of reasons have been discussed in literature that explain why people might resist change. Alamry and Alfawzan (1997) indicate that resistance to change might be based on objective reasons such as the cost of the innovation or might be on political, economic, emotional or cultural reasons. The school leaders or educational leaders in government should be aware of the different reasons, which might affect people's engagement with a curriculum innovation with a view to addressing the issues.

3.5.1 Leadership styles

According to Fullan (2007), school improvement should be an organisational goal and the school head plays an important role in the movement towards that goal. This observation has significant implications for the ability of the school head to ensure the development of a conducive environment in which the school community including teachers and students can work together to achieve success. In the same vein, Hallinger (2003) asserted that the school head's style of leadership has a bearing on the performance of students, teacher satisfaction and on the entire school environment. Similarly, in a study conducted by Cotton (2003), it was shown that the school head's leadership style does not affect students' academic success directly, however, it does so through the way the school head interacts with the teachers in the school. There is therefore need for the school head to ensure that they embrace a leadership style that can help to create a conducive learning environment to promote student success. In this section, I highlight some of the leadership styles that are key for effective educational innovations to take root in schools. This would provide important guidelines in evaluating the implementation of the TP, which is an unprecedented curriculum innovation project in Saudi Arabia.

3.5.2 Transformational leadership

This type of leadership highlights a leader as a facilitator of change. In this case, the school head creates a suitable environment through collaborative efforts. As indicated by Sergiovanni (2007), this type of leadership focuses on a shared leadership base in which everyone in the school including the school head, other school staff including teachers, have a say in decision-making aimed at improving curriculum development and instructional activities. In this aspect, Sergiovanni (ibid.) asserts that transformational leaders look for opportunities to encourage and empower everyone in the school community to work on a common goal and to take responsibility for the change process through a collaborative approach. The implication here is that the leader should have excellent communication skills with all the school community members to ensure that everyone is committed to the accomplishment of the organisational goals and objectives. According to Pepper (2010), 'this type of leader encourages teachers and others to focus on the organisational purpose, its shared beliefs, and the incorporation of a team orientation' (p.46). The main focus of a transformational leader are the results and not the process of how to achieve the results. As a result, the leader will engage the other members in the school community, for instance, teachers to find the best way to achieve the desired results. The extent to which the rest of the members of the organisation commit themselves to the organisational beliefs and purpose plays a pivotal role in ensuring that effective change takes place. With this in mind, it is important to understand that the effective implementation of an innovative curriculum project such as the TP cannot be achieved by the work of the school heads alone. However, the school heads should be placed under scrutiny since their leadership style determines how the other teachers will contribute towards the success of the project. As posited by Lezotte and Mckee (2006) a strong commitment by every member of the school community to the shared goals is one of the fundamental assets needed to promote the success of an innovation. Understandably, the members of the organisation can only be strongly committed to the achievement of success if they participate in the entire process, that is, they need to know the full details of the change they have to implement. A transformational leader must be dedicated to involve everyone in the process and must support others to take part in the project including harnessing the experience and expertise among the members (Lezotte andMckee, 2006). What this means is that the teachers in the Tatweer schools should be seen playing a leading role in the implementation of the project and this could be reflected by their participation in leadership positions.

Transformational leadership has been shown to be one of the key factors that contributes to effective student learning in a school. Leithwood, Louis, Anderson, and Wahlstrom (2004) identified three practices they considered to be the pillar of effective leadership in defining a transformational leader:

a) Empowering members of the school community to design and understand the shared goals,

b) Contribute to capacity building of the community members and provide space for their voices to be heard in decision-making, and

c) Create a conducive environment for collaborative work to thrive

Literature shows that transformational leadership impacts positively on the teachers' views of the school, their willingness to change and their commitment to the learning process experienced in the school. For instance, Korkmaz (2007) established that transformational leadership impacts positively on teachers' job satisfaction and this, in turn, contributes to a conducive school learning environment. In the same vein, Mark and Nance (2007) found that teachers and school heads who participate collaboratively in decision-making processes impact positively on curriculum development and on the students' academic success. Arguably, even today, school leaders who embrace a transformational leadership style have potential to bring about a positive effect on the school culture.

3.5.3 Transactional leadership

As noted earlier, it is significantly important for the school environment to be conducive for learning to promote student success. The creation of a conducive learning environment can be achieved by embracing a transactional leadership style. This type of leadership involves close monitoring of the members of the organisation to ensure the established procedures and standards are adhered to. Kotter (1996) says 'transactional leadership results in a degree of predictability and order and has the potential to produce the short-term success expected' (p.26) which leads to the creation of a conducive learning environment. According to Sergiovanni (2007), transactional leadership style adheres to the rules of the organisation, established procedures and job descriptions to ensure the accomplishment of set organisational goals and expectations. In the same vein, Friedman (2004) observes that this type of leadership involves micro-managing members in the school community to ensure that everyone is adhering to the set rules and job descriptions to meet the school goals. The downside of this approach is that it can lead to negative emotions and performance on the part of the members of the organisations who

may resist the idea of being monitored closely. As observed by Friedman (ibid.) this approach does not take into account the experience and expertise of members of academic staff in the school. Yet, these teachers are the ones interacting with students in the classrooms on a daily basis. They just have to implement what they are mandated to do without having their voice in the planning and development of the curriculum.

However, it can be argued that close monitoring and supervision helps to ensure that members of the organisation are adhering to the set standards and procedures for the achievement of the desired results. Therefore, on the contrary, this approach might actually strengthen professional dispositions on the part of the members of the organisation given that there is recognition of those who perform well in their assigned tasks. Hallinger (2003) emphasises the importance of supervision in the implementation process of any change. This is critical for the achievement of organisational goals and expectations. This type of leadership enables the leader to maintain a tightly structured organisational operation (Sergiovanni, 2007). Any school leader who embraces this type of leadership manages the organisation mechanically. As argued by Pepper (2010) 'the environment is clean, orderly and predictable, with set routines and procedures' (p.49). MacNeil, Prater and Busch (2008) contend that maintaining such an environment that is orderly, safe and healthy in a school promotes student learning. This further underscores the role of a school head in a school, they have to create an enabling environment to improve student learning.

Several other leadership styles do exist but these two were selected for their relevance to the study context. My argument is that if the school leaders in the TP can bring the aspects of the two models together, the TP can be implemented effectively. The principal focus of the two leadership styles would be the creation of a shared vision for the success of the school and the development of an environment where everyone upholds high expectations and focuses on enhancing teaching and learning. As argued earlier, it is vitally important for the teachers and all the staff in the schools to be involved right from the planning stage of the change to ensure that they develop a sense of ownership of the change they have to implement. It is also important for the school to have high expectations and well-defined procedures for ensuring that effective teaching and learning can take place. The following section discusses the teachers' role in curriculum development.

3.6 The role of teachers in curriculum development

It is my submission that whether an innovation is developed externally and introduced into the school or a school-based initiative, teachers play a pivotal role in ensuring its success or failure. In the literature review, I found it necessary to identify what different authorities say regarding the role of teachers in curriculum development. In this case, I am using the term curriculum development broadly to refer to the different phases such as curriculum planning, curriculum implementation and curriculum evaluation. I will argue that teachers do not only play a role in the implementation stage but should be involved right from the outset of the innovation. Almost three decades ago, Kelly (1990) posited that teachers should be engaged effectively in both the development of the new curriculum and in establishing the rationale for change. Understandably, if teachers are engaged with the rationale for change, there will be a great sense of ownership, which is vitally important for the adoption of the innovation. To emphasise the role played by the school environment which is created by the school head and the teachers, among other stakeholders, Jackson (1990) cited in Alvunger, Sundberg, and Wahlstrom (2017) contends that the 'school is a place where tests are failed and passed, where amusing things happen, where new insights are stumbled upon, and skills acquired' (p. 1). Teaching is considered as a curriculum process, which means classrooms are contexts in which students encounter curriculum events when teachers make a connection between the institutional curriculum to the classroom context. The teachers play a key role in transforming the curriculum into practical teaching. Now, if the teacher is to do this successfully, it becomes important for them to have a good grasp of the curriculum and any changes introduced. If the teachers view the curriculum innovation as alien, it will be difficult for them to implement it in a meaningful way. This underscores the need to involve teachers when a curriculum innovation is being designed. As argued by Williams and Williams (1994), the involvement of teachers in decision-making about the curriculum can help to build positive perceptions of the new curriculum innovation. In the same vein, Kottkamp (1993) cited in Alnefaie (2016) observes that educational improvements will be ineffective if teachers are not considered as important assets in the whole process of educational change.

To ensure that educational changes are implemented successfully, it is important that the teachers who are the frontliners in the implementation stage are fully aware of the nature of change. Commenting on the likely barriers of curriculum implementation, Sager

(2004) cited in Al Shibani (2015) indicated that educational reforms are often stifled by individuals or groups who are unaware of the nature of the intended change and the process of innovation. Again, this forms a good basis for the analysis of the TP, as I need to interrogate the extent to which teachers were involved in the whole process of curriculum innovation.

As can be seen from the preceding paragraph, the call for the participation of teachers in curriculum development is well documented in literature. Teachers are viewed as rich sources of curriculum knowledge given that they are always in touch with the curriculum in classrooms (Handler, 2010). Teachers make decisions regarding what they want to teach and what they want to leave out. This is well captured by Banegas (2011) who contends that teachers do not always deliver everything defined by the policy-makers and consequently, this might impact on the quality of the learning process. It is evident from literature that in some parts of the world, for instance, in Eastern Europe and some Eastern Asian countries, the role of teachers in curriculum development is being acknowledged (Erss, 2014). In the stated regions, teachers are being given space and freedom to make important curriculum decisions. The argument is that: 'the more teachers are involved, the more effective the curriculum' (Troudi and Alwan, 2010, p.108).

It is also clear that in some places, teachers are not afforded the opportunity to participate in curriculum decision making processes. As observed by Kumaravadivelu (2003), teachers in most of the developing countries are not considered as valuable in the creation of new knowledge and their job is to implement what is put in place by the policy-makers. In the same vein, Hargreaves and Shirley (2011) contend that teachers are marginalised in curriculum decision making processes and they are often treated as 'objects of reform and not participants' (p.1). In a study conducted by Mullick (2013) in a Saudi Arabian University, it was found that teachers' voice was absent in the curriculum and this was because of power related issues. Mullick (ibid.) observes that: 'power relationships play a pivotal role in Saudi Arabia society' (p.39). As Akbari (2008) says those with power in society are the same people who are privileged to make decisions about the curriculum. Literature reveals that in Saudi Arabia teachers are considered as implementers of the curriculum decided by the policy-makers (Alnefaie, 2016). I will argue that for the curriculum innovation to be implemented effectively, teachers should become actively involved in the processes of curriculum design and implementation. The next session focuses on the technology use in the school curriculum.

3.7 Technology use in the school curriculum

The introduction of technology has had a significant impact on pedagogical practices in most of the classrooms in schools across the globe. Groff and Mouza (2008) contend that 'introducing new technology into the classroom in order to transform teaching and learning has been a long-standing tradition in education'. Teachers have always looked for ways to enhance their practice and facilitate students' learning. In this section, I will explore the meaning of technology, the role of technology in teaching and learning contexts as well as the factors affecting the effective use of technology by teachers to support student learning experience. It is significantly important to establish what literature say about technology and its application given that the Tatweer project, which is the focus of my study, had the introduction of technology in schools as one of its main objectives.

3.7.1 What is technology?

One of the main aims of the Tatweer project was to establish smart schools where technology was introduced to enhance the teachers' practice as well as the students' learning experience. A visit to the Tatweer schools revealed that the schools were equipped with computer hardware and software including some equipment and tools such as overhead projectors and interactive whiteboards meant to be used for teaching and learning purposes. As posited by Earle (2002) it is important to interrogate the concept of technology, for instance, is it "a synonym for computers, or…its meaning transcends hardware and software to include both physical and intellectual facets in its domain" (p.5). Literature shows that the concept of technology is not necessarily a neutral word as different people tend to define it differently depending on their perspective and context. Webster's New Collegiate Dictionary adopts a sociological view in the way it defines technology as "…the totality of the means employed to provide objects necessary for human sustenance and comfort" and a "technical method of achieving a practical purpose". In general, most people conceptualise technology as synonymous to use of machinery. As a result, schools can be loaded with computer hardware, software, and other digital devices with a view to becoming technologically equipped. However, this limited view of technology as equivalent to machinery at the expense of process arguably ignores the true sense of technology as: "the systematic application of scientific and other organised knowledge to practical tasks" (Galbraith, 1967 cited in Earle, 2002, p.5). A

close look at literature shows that technology should be defined broadly to include not only the machinery but also the broader processes of teaching and learning. In a way, it is vitally important to adopt a comprehensive view of technology if meaningful integration of technology in teaching and learning is to be achieved. It is important to establish a good link between technology and pedagogical processes. This study aimed to establish whether the Tatweer project focused on access to hardware only or it adopted a broad view of technology to include pedagogy for its successful integration in teaching and learning contexts. Clearly, it is not enough to provide resources and expect integration of technology to occur without paying attention to pedagogical processes. Commenting on the integration of technology, Wager (1992) argued, "the educational technology that can make the biggest difference to schools and students is not the hardware, but the process of designing effective instruction" (p.454) which incorporates computer technology and other media appropriately. In this study, educational technology is conceptualised as a comprehensive concept that takes on board not only the provision of hardware and software but goes beyond access of machinery to include the pedagogical processes involved in teaching and learning. The following section discusses some of the perceived benefits of technology use in teaching and learning contexts, which might have been the driving force for the integration of technology in the Tatweer schools.

3.7.2 The role of technology in teaching and learning context

According to Shieh (2012) in the modern world the expectation is that, teachers should not only have their subject knowledge but should have sound pedagogical knowledge including knowledge about how they can make use of technology to promote student learning. This reflects the prominent role of technology in teaching and learning contexts.

For the schools where technologies are being used, a wide variety of different technologies are being employed to support teaching and learning activities both inside and outside the classrooms. This includes the use of computers, laptops, I-Pads and other mobile learning devices (Albugami and Ahmed, 2015). More technologies such as mobile phones, pocket personal computers and notebooks are increasingly used for educational purposes in schools (Hsu, Hwang and Chang, 2013; Ozdamli, 2012). The use of mobile devices in learning contexts have been shown to facilitate student learning in any place that has got Wi-fi connectivity and at any time (Hsu and Ho, 2012). Given the wide

variety of technologies available, it is incumbent on teachers to make a good selection of tools that best promote learning activities inside and outside the classroom. In the first place, the teachers should be able to use the technologies themselves, otherwise, the technologies cannot be put to use. Studies conducted in different parts of the world have shown that having access to hardware, software and other digital media does not guarantee integration of the technologies in teaching and learning (Cuban, 2003; Wozney et al., 2006). Apart from supporting teaching and learning activities in the classrooms, technology can also be harnessed by school heads for the management of data which allows them to 'work more efficiently by improving tracking of learning outcomes, behaviour, and curriculum and other pedagogical data' (Blau and Presser, 2013). The data management systems in schools can help to promote school effectiveness as it becomes easier to provide updated data regarding student information such as class or subject performance as well as information about the whole school. In addition, these systems can also improve school effectiveness by enhancing communication among members of the school community including teachers, students and parents (Blau and Hameiri, 2012).

A number of research studies have sought to demonstrate the impact of technology on students' learning. For instance, Beichner et al. (1999) asserts that using technology-rich learning environments enhances student performance. They observed in their study that students who were exposed to use of technologies outperformed their counterparts who used the traditional approach to learning, that is, basically no technology use, among other things. They also established that students' confidence, satisfaction and retention rates were noticeably high. In an earlier study by Hake (1998), it was shown that use of technology enhanced student performance. Hake (ibid.) observed that students exposed to technology use scored marks that were twice as high as that achieved by the traditional course students. It has also been shown that the use of instructional technologies help teachers to employ constructivist approaches to teaching and learning giving students opportunities to engage actively in the learning process (Asenso-Okyere and Mekonnen, 2012). Other benefits associated with the use of instructional technologies include encouraging collaborative learning and helping students to develop problem-solving skills and providing flexible learning opportunities (Almalki and Williams, 2012).

The Saudi Arabia Government has so far made huge investments towards the integration of instructional technologies in schools. The Tatweer project indicates the Government's commitment to the integration of learning technologies in schools (Tatweer, 2010). In

2015, huge sums of money (£36 billion), almost a quarter of the entire Saudi Arabia national budget was committed towards the educational division to support the integration of technologies in schools (Ministry of Finance, 2015). However, research indicate that a huge gap still exists between the availability of information and communication tools (ICTs) and the methods of implementation. The need for the Government to develop a more effective strategy for the integration of technologies in schools has been reiterated in a number of research studies (Oyaid, 2009; Almadhour, 2010; Al-harbi, 2014). This indicates that when it comes to the successful integration of technologies in the school curriculum, it is not only about the availability of financial resources (Almadhour, 2010). In the same vein, Zvika (2007) stated that "a seemingly bottomless bank account is not the only ingredient needed for a top-notch education system" (p.1). A number of important variables have to be taken into consideration for the successful integration of technology in schools. The enabling factors and barriers to successful integration of technology in the school curriculum is discussed in the following section.

3.7.3 Factors affecting the use of technology in teaching and learning context

The integration of technology in the school curriculum depends on a number of factors. As indicated earlier, the availability of technological resources does not necessarily translate into the integration of the technologies in teaching and learning contexts (Cuban, 2003). It must be clear though that not all classrooms are enjoying the use of technology as in some places, for example, in many developing countries teachers and students are still making use of the traditional methods. A good example here is Saudi Arabia, before the introduction of the Tatweer Project; most of the public schools were not making use of the new technologies to support teaching and learning activities. Kurt Lewin's (1951) force field analysis theory is useful in terms of illustrating the dynamics at work in the change process, that is, the interaction of the driving and restraining forces. According to Earle (2002), the driving forces for technology integration might include the power and potential of new developments, rapid availability, creativity, internet access, ease of communication, or the promise of impact on learning. On the contrary, restraining forces might include barriers and constraints such as technical support, teacher expertise, time for planning or pedagogical applications (Earle, ibid.). In a way, for the effective integration of technology, an effort has to be made to reduce the restraining forces. The following constraints and barriers have been acknowledged by a number of scholars (Pelgrum, 2001):

- Access to hardware and software as well as funding (Lan, 2000; Leggett and Persichitte, 1998)
- Time for planning, personal exploration, online access and skills development
- Technical and administrative support and resources (Leggett & Persichitte, 1998)
- Training and expertise (Cafolla and Knee, 1995)
- Resistance, passivity, school cultures and traditions of teaching (Beacham, 1994)
- Vision and leadership (Cafolla & Knee, 1995; Ely, 1995).
- Support for integration of technologies into instruction and the curriculum (Cuban, 1986).

The above barriers can be extrinsic or intrinsic to the teachers (Ertner, 1999). Factors including access, time, support, resources and training are beyond the teachers' control whereas factors such as attitudes, beliefs, practices and resistances are intrinsic to the teachers. When it comes to technology integration, it can be argued that even if the extrinsic barriers were to be removed, it does not automatically follow that teachers would use the technology (Earle, 2002). It is important to ensure that both teachers and students understand the rationale for the introduction of instructional technologies. This view is reinforced by Vallance et al. (2009) who argue that lack of clear justification for the incorporation of instructional technologies can constitute a significant barrier to their use. Similarly, Al-harbi (2014) indicate that limited knowledge of how to use the technologies can also make it difficult for teachers and students to exploit the available technologies. This makes it imperative to ensure that technical support and continuous professional development opportunities, that is, training in the use of the new technologies should be prioritized. Both teachers and students should have a common vision about the value of the available technological tools (Twining, 2007).

Therefore, the decision to embrace technology requires a huge investment into the acquisition of the technologies and also the professional development of teachers to enable them to make use of the new technologies. The school heads play an important role in championing technological change in schools. Harris, Rutledge, Ingle and Thompson (2010) assert that school heads also affect the quality of teaching and learning in schools through providing continuous professional development opportunities for the teachers and ensuring that effective organisational structures that support teaching and learning are in place. In the subsequent paragraphs, I will discuss some of the factors that influence the integration of new technologies in teaching and learning contexts in more detail.

Despite the known advantages of integrating technologies into teaching and learning contexts, not every teacher finds it easy to embrace the use of these technologies. For instance, Groff and Mouza (2008) observed that many teachers find it really hard to make use technology-based instruction consistently. As indicated earlier, the integration of technology in teaching and learning contexts has been hampered by a number of well-documented factors. Trying to integrate technology can be a complex and messy task as a number of factors have to be addressed. Some of the key factors are highlighted below:

- 'Legislative factors
- District/school level factors
- Factors associated with the teacher
- Factors associated with the technology-enhanced project
- Factors associated with the students
- Factors inherent to technology itself' (Groff and Mouza, 2008, p. 23).

From the above list, some of the factors are closely related to the teachers' work, hence, it might be possible to address them resulting in the creation of an atmosphere conducive for the integration of the technology. According to Zhao, Pugh, Sheldon and Byers (2002) those factors include the school environment or the context in which technology will be implemented, the teacher who serves as the innovator and the technology-enhanced project or innovation. The implementation of the Tatweer project, which is the object of this study, might be influenced by a host of factors. It is therefore important to understand some of the key factors that are known to affect the implementation of educational change such as technological innovations.

Policy-makers play an important role in the process of embedding technologies in teaching and learning contexts. It has always been revealed that the policy-makers advocate for the embedding of technology into the school curriculum for a variety of reasons. For instance, McMillan-Culp, Honey and Mandinach (2005) assert that policy-makers emphasise three key themes for technology integration and this includes: a) use of technology to address challenges confronted in teaching and learning, b) use of technology to promote changes in the context and quality of teaching and learning, and c) use of technology to prepare students for employability. Despite having these clear rationales for introducing technologies in the school curriculum, sometimes the policy-makers do not provide clearly defined recommendations on how each of the stated goals

can be achieved. In addition to having good reasons, it is important to ensure that there are clear instructions or procedures to help schools to achieve the successful integration of the technology in the curriculum. Inadequate research to show the effectiveness of using technology in teaching and learning and shifting legislative policies can constitute a barrier in the implementation of technological innovations.

The effectiveness of the school administrators can also influence the extent to which technology can be integrated in the school curriculum. It has been shown that administrative support is vitally important. If this is lacking, it can be an uphill task for the teachers to achieve positive results in their teaching. According to Zhao et al. (2002), failure to give the necessary support can limit the potential of even the most talented teachers. It is therefore important for the school leaders to ensure that the talk about use of technologies in teaching and learning is supported by the provision of the necessary technical support through continuous professional development opportunities (Earle, 2002). The necessary resources include adequate access to the technology, technical support, and continuous professional development plans that allocate time and resources for follow up. In addition, there must be provision for social support to the teachers from fellow teachers in the school including peer mentoring and time to learn how to use the new technologies. The school's physical structure can be a barrier. If the technologies are not aligned to the existing curriculum, this can be a challenge to its successful integration (Fishman, Marx, Blumenfeld, Krajcik and Soloway, 2004).

The teacher plays an important role in the integration of technology in teaching and learning contexts. Callister and Dunne (1992) cautioned that: 'if the teacher does not know what to make of the tool, or fears it, or misconstrues its use, it will be used badly or not at all' (p.325). This underscores the need for the teachers to be familiarised with the technology through systematic professional development and well thought out technical support mechanisms to ensure effective use of the technology. It is difficult for the teachers to implement the technology if they lack the knowledge and skills for their use. Teachers with prior experience of using technologies in their teaching might find it easier to learn new skills quickly compared to those who have no previous experience. In a school, there is always a diversity of teachers and it is usually easy for teachers who were exposed to technology use in their teacher training to embrace new technologies. As highlighted earlier, school heads should provide effective professional development to all teachers. Apart from lack of skills, teacher attitudes and beliefs about teaching and

learning can be a barrier to the integration of technology in teaching and learning. As observed by Earle (2002) teachers are sometimes reluctant to embrace new technologies because using new technologies constitutes a challenge to their current practice. There has to be support and teachers should know where to get support should they find themselves in need.

The nature of the new technology or innovation itself can be a barrier to its integration in the school curriculum. Zhao et al. (2002) highlights two aspects of the innovation itself that could affect its success, and this includes distance and dependence. Distance refers to the extent to which teachers have to change from their traditional practice to cope with the introduced change. It is worth bearing in mind that each school has its own culture which defines the way they conduct their day to day work including teaching and learning practices. In this case, curriculum innovation projects that are alienated from the school culture face formidable challenges to take root. If the technology-based innovation is too distant from the teacher's current practices and previous experiences, requiring new classroom pedagogy and other things such as new roles, new instructional approaches, among other things, this can be a barrier. If the innovation depends on others outside the classroom or resources, this can also decrease the likelihood of project success.

The students affect the manner in which teaching is conducted. It is therefore important for the educators to think ahead and plan effectively to deal with the potential challenges and resistance to technology-integrated projects from their students. For instance, the project might introduce new and more challenging activities for the students who are used to traditional environments where the teacher provides all the information. It can be easy to embed technologies in learning contexts where students are experienced with active learning approaches. In addition, similarly to their teachers, it is important for the students to be taught how to use the new technologies to support their learning. For instance, if the majority of students in a given class are not familiar with the tools they are meant to use in their learning experience, it is imperative that some appropriate training should be given to them before the project starts. Students' attitudes and beliefs can also be a barrier hence the need to ensure that teachers address students' concerns before introducing the new technology in the curriculum. In order to examine the implementation of a curriculum innovation in the public schools, I decided to include the review of literature on the problems being faced in the secondary education system in Saudi Arabia.

3.8 Problems in the secondary education system in Saudi Arabia

I conducted a literature review to identify the problems and challenges that were being experienced in the secondary education system in Saudi Arabia. This was important in terms of helping me to understand the context in which the TP was designed and implemented. A number of problems have been established in literature and these include rote learning, lack of creativity and thinking skills, lack of training and limited teacher participation in curriculum development and discrepancies between the public and private school curriculum. These problems are discussed briefly in the following paragraphs.

3.8.1 Rote learning

The problem of rote learning has been in existence since the very old times of Saudi Arabia (Tatweer, 2010). This problem appears to be a common issue in most of the Arab countries in the region. For example, Brewer and Goldman (2010) researched the education system in the Gulf region and concluded that: 'students were generally unchallenged, with few opportunities for teacher-student interaction and an emphasis on rote-learning and memorisation' (p.230). Similarly, Rugh (2002) observed that: 'pedagogy in most Arab schools and universities is typically based on rote learning than it is on critical thinking, problem solving, analysis of information, and learning how to learn' (p.415). According to Aljughaiman and Grigorenko (2013) rote learning in Saudi Arabia must be understood with many other weaknesses that may contribute to it, including the low standard teaching practices. The major problem in Saudi schools is that most of the teachers who were brought up using rote learning actually consider this to be a good approach. Any changes would require ensuring that these teachers' mindset is changed to be in sync with the contemporary ways of thinking about teaching and learning, that is, the constructivist approach.

3.8.2 Lack of Creativity and Thinking Skills

Al-Qahtani (1995) observed that there was lack of students and teachers' awareness and understanding of how to develop creative and thinking skills in secondary schools in Saudi Arabia. After 35 hours of classroom observation and interviews with teachers, Al-Qahtani (ibid.) concluded that creative and thinking skills, which are important factors for the application of knowledge, are very limited among the Saudi Arabian students. One of the reasons according to him was, although teachers recognised the need for such skills they do not know how to teach them and teachers themselves do not possess these skills.

This explains why an innovation such as the TP sought to focus on the development of creativity and critical thinking skills (Tatweer, 2010).

3.8.3 Lack of training and limited participation of teachers in curriculum development

An education consultancy firm, Wallace Foundation (2012) based in the USA issued more than 70 research reports observing how principals' leadership motivated teachers and improved overall school performance. They found that the principals as leaders play a significant role in ensuring the development of a professional community of teachers who guide one another in enhancing teaching and improving work settings. The schools where the principals and teachers were provided the opportunity to participate in the teaching and knowledge content development were found better at addressing the needs of disadvantaged students (Harvey and Holland, 2011). From the findings, Harvey and Holland (ibid.) summarised that principals' empowerment helps improve the schools by creating a goal of academic success for every student, creating a conducive climate for education to take place, developing leadership in others, promoting instruction, and managing people and data processing.

Teachers and principals' participation have proven to be effective in curriculum development in the Western countries and the developing countries are following this strategy although very slowly (Aggarwal, 2004). Vongalis (2004) questioned teachers' opinions about the education systems they were working in around the world during the Education International Third World Congress, held in 2001 in Thailand and was attended by 29 countries worldwide representing 55 national teachers' unions from around the globe. Her findings suggest that teacher participation in education policy-making and curriculum development was among the issues raised by the majority of teachers from various developing countries, including emerging economies.

In China for example, the Chinese Municipal Education Commission announced the apparent failure of the New Curriculum Reform initiative of the government. Walker, Qian and Zhang (2011) interviewed 11 Chinese secondary school principals working in Shanghai to understand why it failed. The principals' main concern was that they were not involved in the curriculum development and adequate information was not shared with them about its implementation. The principals say that to implement an effective and productive curriculum the government should change its evaluation criteria from

using exam results as the single important indicator to a holistic approach that values other features of learning and performance. Equally, Saudi Arabian teachers and principals feel the same way because they have not been participating in some of the latest curriculum development programmes. In the two curricula change programmes discussed above, parents, students, teachers and principals have not been involved. Some teachers doubt that they would receive required training for these programmes. Alotaibi (2011) reports on how teachers feel about recent curriculum development programmes when one of the teachers he interviewed said, 'I wish that teachers would not have to find out about changes and developments in the education system after all others have found out' (p. 14).

3.8.4 Discrepancies between the public and private school curriculum

One of the things that brought the narrative of the need for new curriculum may be related to the changing pattern of school preference among the Saudi parents. Many parents in Saudi Arabia enrol their children in international schools despite the fact that in government schools, education is free. Although people might have different reasons for opting for private education, it is possible that this shift signals that something is wrong with government schooling. Karem et al. (2011) surveyed 100 students in Al-Jouf education district in Saudi Arabia and found that module-based curriculum and extra-curriculum activities are very poor in content, principally in developing some modern thinking such as environmental skills. Al-Khalidi cited in the Saudigazzette (2015) at Ummu Al-Qura University found that 70% of Saudi parents indicated the desire to get their children enrolled in international schools while 18% do not and the rest cannot decide. The parents who participated in the research believed government schools promoted rote learning and applied old-fashioned teaching techniques. One parent was reported as saying:

> Unlike international schools, the method of learning at government schools and even some private schools are based on traditional rote learning. This system does not help develop a child's personality. It is the need of the hour for schools to update their teaching methodologies and concentrate on teaching the English language (Saudigazzette, 2015, p.6).

It was also found that parents think their children get cultural diversity, innovation in curriculum and teaching environment and a high level of foreign language skills from the international schools (Saudigazzette, ibid.). It is against this backdrop that the

government through the Ministry of Education is coming up with different initiatives aimed at improving the public secondary schools.

3.9 Chapter conclusion

In this chapter, an effort has been made to critically review literature on a number of topics related to my study. I examined the concept of curriculum and found that although this concept seems to be straightforward, in reality it is quite complex as authorities define it differently. For the purpose of my study, curriculum is to be interpreted in the broad sense, which encapsulates everything done within and outside the school. Key concepts including curriculum implementation and curriculum innovation have been defined including a discussion of the different curriculum innovation models. To provide a good theoretical framework for the analysis of the TP, the literature review also explored the factors influencing the implementation and adoption of a curriculum innovation. Given that the issues faced in different contexts are similar in many ways, literature has been derived from different contexts including western countries as well as the gulf region. Given that my study involves working in partnership with teachers as the users of the curriculum innovation, the TP, my literature review was expanded to include the role of teachers in curriculum development. Lastly but not least, the review included an examination of the problems bedevilling the secondary education system in Saudi Arabia. It was evident that not many studies have been conducted in the Arab countries; however, the consulted literature from other countries was helpful in terms of bringing to light some key issues that are useful in the analysis of the implementation of the TP in Saudi Arabia. The next chapter focuses on the discussion of the methodology and methods employed in the conduct of my study.

CHAPTER 4: RESEARCH METHODOLOGY and ETHICAL CONSIDERATIONS

4.1 Introduction

The aim of this chapter is to clarify the methodology and ethical considerations informing the conduct of my study. In other words, having stated my study's main research questions in the first chapter of the thesis, I now focus on discussing how I generated answers to the questions. This includes making explicit my ontological and epistemological assumptions that gave rise to the methodological considerations that guided my study. Firstly, I will discuss and clarify my interpretation of the two concepts namely methodology and method. Secondly, I will define and justify the process and procedures used in producing data to provide answers to the main research questions, and this includes decisions around the selection of the appropriate study design and strategy including the suitable data collection techniques employed in the study. In addition, I will discuss the pilot study findings. Lastly but not least, I will discuss the ethical principles that I embraced during the conduct of my study.

4.2 Methodology and Method

As indicated earlier, I will begin by focusing on the discussion of the difference between the terms methodology and method to ensure that readers understand how the two concepts are being used in my study. Cohen, Manion and Morrison (2011) argue that when planning research, a clear distinction has to be made between methodology and methods. They make a distinction between the two concepts by indicating that: 'the decision on which instrument (method) to use frequently follows from an important earlier decision on which kind (methodology) of research to undertake…' (ibid., p. 129). Wellington and Szczerbinski (2007) define methodology as 'the activity or business of choosing, reflecting upon, evaluating and justifying the methods you use' (p. 33). Similarly, Sikes (2004) distinguishes the two concepts (methodology and method) by emphasising that methodology involves thinking through, describing and analysing the methods used in a given study as opposed to the practical use of the methods.

As can be seen from the above definitions, the purpose of methodology is: 'to describe and analyse methods, throwing light on their limitations and resources, clarifying their suppositions and consequences, relating their potentialities to the twilight zone at the frontiers of knowledge' (Kaplan cited in Wellington, 2000, p. 23). Arguably, the distinction between methodology and method can be identified by examining the definitions of the two concepts. According to Wellington (2000), a method is the procedure used by the researcher to collect and analyse data about a certain topic in research. Sikes (2004) clarifies that method is part of methodology, which is about doing whereas methodology is about understanding doing. As alluded to earlier, this chapter gives an explanation and justification of the methodology and methods employed in the conduct of my study. The next section focuses on the description of the theoretical framework guiding the conduct of my study.

4.3 Theoretical Framework

In conducting any research activity, the researcher's ontological and epistemological assumptions determine the methodology they embrace. This means that researchers' worldviews or perspectives determine how they conduct their studies. According to Denzin and Lincoln (2008), a research perspective or paradigm consists of the researcher's philosophical orientation, that is, epistemology, ontology and axiology as well as the methodological orientation. Here, I would like to discuss the philosophical assumptions that guided the way I conducted my study. Firstly, I provide the definition of these key concepts to facilitate an understanding of what I am discussing in the subsequent paragraphs.

Soanes, Hawker and Elliot (2006) provide a good way of making a distinction between ontology and epistemology stating that ontology refers to 'the nature of being' whereas epistemology is the branch of philosophy that focuses on 'knowledge' (p.520). In other words, 'ontology generates theories about what can be known (epistemology), how knowledge can be produced (methodology), and what research practices can be employed (methods)' (Raadschelders, 2011, p. 920). In the words of Denzin and Lincoln (2008): ontology focuses on 'what we think reality looks like and how we view the world, for example, the question of 'what kind of being the human being is' (p.31) or the interrogation of 'the nature of phenomena, or entities, or social reality' (Mason, 2002, p.14).

Having defined ontology, I now turn to epistemology which basically explores issues around the link between the known and the knower (Denzin and Lincoln, 2008), and as Mason (2002) asserts, what constitutes knowledge or credible evidence of the social reality being studied. The researcher's epistemological assumptions inform their decision regarding the suitability of different approaches for the conduct of their research. In light of this, in any inquiry it is of paramount importance to be able to select the evidence that can be used as substantive evidence or credible knowledge. In any research study, it is therefore clear that the use of any particular method and the presentation of findings is based on one's understanding of what can be considered as credible knowledge. As posited by Lakomski (1992) the choice of certain methods is premised on the belief that the selected methods will help to generate credible data rather than subjective opinions.

I agree with the notion that the multiple views that are held in relation to the nature of research studies of social phenomena arise from the researchers' assumptions and their philosophical orientation, that is, their ontological and epistemological stance. As observed by Cresswell (2009), the researcher's beliefs will determine whether they adopt a qualitative, quantitative or mixed-method research paradigm. This underscores the important role of the beliefs held by researchers in any study of a social phenomenon.

The conduct of a quantitative study is guided by the principles of a research paradigm called positivism. This research paradigm places emphasis on or recognises as research something that can be proven in a scientific manner. This means, researchers who embrace quantitative research will seek logical processes or mathematical evidence and are not persuaded by metaphysical positions. This type of research includes 'social surveys and experiments' (Clough and Nutbrown, 2008, p.18). The research findings and research design are informed by statistical data and replicability of results is essential. In this case, the data that are collected by using tools such as questionnaires on a large scale.

Unlike quantitative research, qualitative study is based on interpretivist principles which acknowledge that researchers cannot eliminate their influence in the conduct of a study. In other words, the researchers' background makes it difficult to adopt a neutral position in a study. The data will be affected by the researchers' background (or positionality) as explained in my introductory chapter. The researcher's cultural background, experience and beliefs will certainly impact on their research activities. It is against this background that different researchers will never produce the same results even if they study the same

phenomenon. This means that it is impossible to replicate results in a qualitative study.

The use of qualitative research helps researchers of social phenomena to develop a better understanding of social behavior and participants' belief systems given that this research paradigm places emphasis on meaning and interpretation. According to Hennink et al. (2011), it is of paramount importance to elicit a significant amount of data from the participants. In qualitative studies, the data is usually generated in the form of written or spoken accounts. In this type of research, it therefore means that the researcher plays a pivotal role. The commonly used methods in this type of study include questionnaires with open-ended questions and interviews. There exist different types of interviews and the commonly used structures in qualitative studies are structured or semi-structured interviews and these structures are decided by the researcher. The researcher makes use of interview guides that they put in place before the interview. While the researcher plays an important role, in an interview set-up, the way the interviewer interacts with the participants is important as this determines the direction of the interview as well as the amount and quality of data generated. Other methods employed in qualitative studies include focus group discussions and participant observations. One other important feature is that in a qualitative study we talk of participants rather than subjects as commonly used in quantitative studies. On the other hand, sampling is done differently too, in a qualitative research generally the sample sizes tend to be smaller than those of quantitative studies and they are selected either purposely or conveniently using non-probability sampling techniques.

One of the common examples of qualitative research is case studies. As highlighted earlier, the researcher plays an important role in this type of research. For instance, in a case study, the researcher collects the data by interacting directly with the participants. The interactions play a vital role when it comes to the interpretation of the data. Unlike in the case of quantitative studies, it is not possible to repeat the results of a qualitative study. This is because, qualitative studies involve dealing with several variables and the researcher's interaction with the participants and their interpretation makes it difficult to achieve repeatability of results. Some of the main tenets of qualitative research is that, it is reflexive, and is affected by the researcher's set of values. In addition, qualitative research relies on an emic perspective, that is, an inside perspective. It is therefore, descriptive and subjective. The researcher has a pivotal role in the research process and is in the social environment being studied. This view is well articulated by Banister et al.

(1994) who say that the researcher is the one who interprets and makes sense of the situation under study. This underscores the central role played by the researcher in a qualitative study. It can therefore be understood that in a qualitative study, the social reality is constructed and is interpreted subjectively by the researcher who is at the heart of the process. Banister and his colleagues further clarify that an interpretive inquiry seeks to explore the inner self, examining and explaining in a systematic way the phenomenon under study. As indicated earlier, there are different types of qualitative research in existence and the essence of the findings is premised on the appropriateness of the chosen approach. It is important to acknowledge that each of the different interpretative approaches has its own merits and demerits. However, no approach can be said to be the best, it all depends with the appropriateness of the approach to the task at hand. Therefore, the researcher has to make a judgement of the suitability of the approach to the research activity at hand. This view has been discussed by Banister et al. (1994) who argue that there are different ways in which methods can be viewed by different researchers. In this case, every researcher in a qualitative study should make a judgement of the suitability of the methods they embrace in their studies.

According to Harre (1974) cited in Banister et al. (1994) it is inherent in us as human beings to reflect on our actions and therefore an inquiry into a social phenomenon should seek to apply this in its design. Clearly, the researchers' influence cannot be neglected in a qualitative study. This is one of the key aspects of qualitative studies that makes it different from the quantitative studies. On the other hand, in quantitative studies, sampling is done using probability sampling techniques. The samples are generally bigger than those utilized in qualitative studies to facilitative statistical computations and the inference of conclusions drawn from the sample to the population. I did not consider using a quantitative study as the nature of my research problem was not compatible with quantitative approaches. I was interested in eliciting participants' personal experiences, opinions and beliefs; hence, a qualitative approach was the reliable option.

Arguably, qualitative studies have the potential to generate data that are richer than that produced in a quantitative study (Hennink et al., 2011). Fairly speaking, it can be argued that this is dependent on the experience and researcher expertise. Researchers can employ several theories and techniques in qualitative studies and these include: interactionism, feminism, cultural studies and symbolic interactionism, and phenomenology. These theories and techniques can be applied during interviews, observations, narrative

analysis, life history, ethnography and focus group discussions (Denzin and Lincoln, 2000). In a qualitative study, the data are meant to show the participants' personal experiences and their interpretation and meanings attached to the experiences (Corti and Thompson, 2004). This explains why Denzin and Lincoln (2008) consider that an interpretive enquiry must be carried out in the natural settings for the participants and the researcher to find it easy to interpret the findings according to the reality of the participants' environment. In this regard, Nightingale and Cromby (1999) consider that the adopted methodologies in research will differ in the degree to which the researchers are able to reflect and employ the language in the study. They state that the researcher is inevitably an important part of the data because of their influence and the way they choose to interpret the findings. Their views are in tandem with my experiences in this study as captured earlier in the section on my positionality. I chose to conduct my study using Elliott et al.'s (1999) guidelines, which include ensuring that I adhered to my own perspective as a researcher, establishing good rapport with the participants and ensuring that I had reliable ways to verify the credibility of data. In addition, it was important during the conduct of my study to ensure that all tasks were accomplished in a systematic manner and to achieve coherence of data as well as the evaluation of the sources of data. In some cases, researchers can combine the qualitative and quantitative approaches in one study. The use of mixed method approach has been discussed in literature, however, I did not find this approach useful for my study. As argued by Rorty (1979) the use of blended approach has the potential to produce robust results given that the different approaches can combine the strengths of each approach in one study.

As highlighted above, educational research is informed by different philosophical positions including positivism, interpretivism and pragmatism. Given that the choices made by the researchers are informed by their philosophical assumptions which include their considerations of the nature of reality, the nature of knowledge and the researchers' beliefs and values (axiology); it is, therefore, important to clarify the researcher's philosophical orientation (Cohen et al., 2011). For example, according to positivists, knowledge is viewed as objective, free from the influence of the researchers' background, and can be replicated and generalised (Wellington, 2000). Those researchers who adopt quantitative studies state that they can employ quantitative methods used in the natural sciences to produce knowledge. In addition, they consider that as researchers, they do not exert any influence on the research process, arguing that the research process is value-free. In contrast, qualitative researchers argue that the way a research activity is conducted

from the beginning to the end is influenced by the researcher's background, that is, the researcher's beliefs, philosophical orientation and values. They make it explicit that the researcher affects even the interpretation of results (Hennink, Hutter and Bailey, 2011). In this case, the researcher's views are believed to be shaped by their cultural background, hence, the emphasis in making the researcher's positionality explicit in qualitative research. Sikes (2010) concurs with Wellington (2000) when she explains in detail how the researcher's ontological and epistemological assumptions guide research. The ontological assumption questions if the social reality is independent or socially constructed. If a researcher considers educational settings as independent reality it can be possible to quantify the research findings but if it is a socially constructed reality, the researcher will gather subjective perceptions and opinions that tell the researcher how the phenomenon is experienced and constructed by people who are involved in it. The area of philosophy that focuses on the nature of knowledge is called epistemology. In other words, epistemology addresses the question: what can the researcher know? According to Hennink et al. (2011), positivists consider knowledge to be a representation of a real world that exists on its own outside the knower or individual. In other words, knowledge is independent of the individual and in terms of research; positivists believe that researchers can measure knowledge using quantitative methods. Positivists or quantitative researchers posit that the research process is value-free, that is, it is not influenced by the researcher's background.

There are three types of research approaches discussed by Cohen, Manion and Morrison (2007) and these include the normative, interpretive and critical research approach. The application of these approaches is discussed below. The normative approach is applied in the conduct of medium to large scale research projects. Some of the key features of this research approach is that it is anonymous and impersonal and focuses on the forces related with the regulation of human behaviour. This approach makes use of a model of natural sciences, that is, the normative approach is guided by the positivist principles. In other words, the approach is objective and the research adopts an outside perspective, and seeks to make generalisations based on specific findings. The emphasis is on establishing causal relations among variables. This approach can be used to explore macro-concepts, including societal institutions, positions, and roles. Cohen et al. (2007) clarify that this approach is more appropriate for use by researchers interested in establishing causal relationships. On the other hand, interpretive approaches are commonly used in situations where emphasis is placed on a consideration of individual experiences. In most cases,

these approaches are applicable to small-scale research projects such as mine. This is appropriate as it allows the examination of human actions and lived experiences as well as the re-creation of social life. This does not involve the use of statistical computations; instead, it is more inclined to subjectivity. It seeks to make interpretations of specific scenarios and identify meaning of the social reality rather than trying to identify causes. This approach enables the questioning and critiquing of what is usually taken for granted. As opposed to normative approach, interpretive research focuses on micro-concepts, for instance, the perspectives of individual, personal constructs and meanings. This approach is widely used by different practitioners (Cohen et al., 2007). On the other hand, a critical approach focuses on different entities including individuals, groups, societies, and explores factors that shape behaviours. These factors include political, ideological and power. This research inquiry utilizes ideological theories, critical evaluation, action, and collaborative efforts and relies on the use of facilitators and participant researchers. The approach interrogates specific issues with the view to developing an understanding and bringing about transformation. As a result, using this approach, even issues that are often taken for granted are researched. This approach focuses on both macro-concepts and micro concepts involving politics and ideological factors and power. As observed by Cohen et al. (2007), this type of research focuses on emancipation.

Similarly, to the interpretivists, I believe that knowledge in educational settings is socially constructed regardless of the sort of model and shape it takes, either top-down or bottom up. For example, curriculum, which is the main area of focus in my study, is made from the many conversations and interactions between different actors in the education sector. The Saudi Arabian curriculum design and implementation is dependent on social, economic, religious, and cultural factors that are associated historically. In this context, I consider the value of the history of education in Saudi Arabia in selecting what I think is the most suitable research approach for my study. I believe that curriculum in Saudi secondary education was developed due to historical events and these events cannot be quantified. In my opinion, the best way to construct knowledge about curriculum changes, their implications and problems is to gather the experiences of the people who make these changes or deal with them in different ways on a daily basis. As a result, my study is a qualitative one underpinned by interpretivism, also known as constructivism in literature (Bryman, 2004). I felt that an interpretivist approach would help me to explore issues around the implementation of the TP from the study of the participants' perspective. In

the same vein, the findings will be interpreted taking into account the contextual background.

In this section, I have given a brief introduction of the theoretical framework adopted in my study; the next section explicates the criteria I adopted for making judgements regarding the quality of my study.

4.4 Criteria for judging the quality of my study

Literature show that different criteria have been suggested for making judgements about the quality of a study and these criteria are selected depending on the research paradigm. This underscores the need to clarify the research paradigm underpinning the conduct of a study such as mine and to help the reader to understand the criteria to use in making judgements about the quality of my study. According to Scaife (2004), it is important to think carefully about the way one asks questions related to the quality of given study. He made it clear that different questions should be asked depending on the nature of the study. In other words, a qualitative study cannot be judged in the same way as a quantitative study when it comes to quality issues. In the preceding section, I explained that this study is guided by the interpretivist perspective, hence, in the following paragraphs I will discuss the quality criteria I found relevant to make use of in assessing the quality of my research study.

The commonly used criteria for assessing the quality of a given study is the one put forward by the positivists or quantitative researchers. Quantitative researchers judge the quality of their work by looking at aspects such as validity (internal and external), reliability and objectivity (Lincoln and Guba, 1985). I will define each concept to clarify and to draw parallels with the alternative or parallel criteria later in the same section. Lincoln and Guba (1985) define internal validity as: “the extent to which variations in an outcome or dependent variable can be attributed to controlled variation in an independent variable” (p.290). In this case, the assessment of internal validity is the fundamental way through which the truth-value of a given study can be ascertained. In other words, internal validity gives an idea of the state of procedures and how they work in practice. The other criterion is ‘external validity’ and this defines the extent to which results from one study can be inferred to another setting as a convenient measure of the causal relationship across different types of settings, persons and times. External validity addresses the extent to which research results can be applied from one context to another. Just like internal

validity, several threats to external validity do exist. These include: the way participants are selected, the social context/environment or settings, the historical effects, how the research instruments are designed (Guba and Lincoln, 1985). If these threats to external validity are addressed properly, it should be possible for a study to be applicable to other new contexts. This is tenable in natural sciences or quantitative research. Reliability is the third criterion and this addresses questions about the consistency of a given study. In the words of Lincoln and Guba (1985), this is a precursor of validity given that an unreliable study cannot be considered as valid. Reliability refers to a given study's (data collection instruments') "consistency, predictability, dependability, stability and / or accuracy" (Guba and Lincoln, 1989, p.235). The reliability of a study or data collection instrument can be achieved or verified if the study can be replicated, to produce same results under similar conditions. This means that, the study should be replicated using the same methods and yield the same set of results to establish reliability. The final criterion under the conventional criteria is objectivity (Guba and Lincoln, 1985, p.292). It basically focuses on the importance of ensuring that the study is conducted without undue biases, that is, the researcher should be neutral in the conduct of the study. This means that there should be adequate proof that a given study is "free of bias, values and or prejudice" (Guba and Lincoln, 1989, p.235).

These conventional criteria are applicable in the quantitative research framework. However, these criteria cannot be applied within the interpretivist research paradigm. As observed by Guba and Lincoln (1989) the conventional criteria described above (also known as the traditional criteria) are incompatible with the interpretivist approaches on the basis of the differences in philosophical orientation. For instance, Lincoln and Guba (1985) posit that: "internal validity which is the extent to which variations in an outcome (dependent) variable can be attributed to controlled variation in an independent variable" (p.290) and therefore, this cannot be meaningful in a context that does not accept a realist ontology (Guba and Lincoln, 1989).

In consideration of the arguments presented in the previous section by Guba and Lincoln (1989), it is important for the researcher to clarify the research perspective informing their study and the appropriate ways to assess the quality of the research. For instance, the traditional criteria cannot be applied to a qualitative research such as mine, hence the need for an alternative criterion. Therefore, the concept of 'trustworthiness' has been coined by Lincoln and Guba (1985). Trustworthiness is developed on issues such as credibility,

confirmability, transferability and dependability (Cohen et al., 2007). Following below is an explanation of how these alternative criteria have been made use of in exploring issues around the quality of my study.

Credibility entails that researchers need to check the extent to which data contains the original narratives that make it easy for someone to know about the topic under consideration (Denscombe, 2007). Commenting on this aspect, Wellington (2015) highlights that credibility is about the extent to which the documents, for example, the interview transcripts are 'sincere and undistorted' (p.214). Consequently, during the conduct of my study, I enhanced the credibility of my study findings by adhering to the guidance and making use of the feedback I obtained from my supervisors in the process of writing my thesis. Secondly, I elicited the views of my study participants after transcribing the interviews to ensure the reports were credible. This was done in light of Lincoln and Guba's (1985) apt observation that member checking is essential 'for establishing credibility of findings' (p.134). I asked the participants to look at the interview transcripts and modify or add anything if they wished to do so (see appendix 2 for email sent to the participants).

The second criterion is confirmability. Confirmability is the 'the extent to which qualitative research can produce findings that are free from the influence of the researcher(s) who conducted the enquiry' (Denscombe, 2007, p.300). For me, I think it is very hard to produce a study free of the researcher's values and personal ideas, but the most important issue is one's awareness of this influence. Therefore, I have been always aware of the effect of my own feelings and ideas on my data and tried to keep my entire research from the influence of my previous work experience in schools in Saudi Arabia.

The third component of trustworthiness is transferability. Qualitative research is generally conducted with a small number of cases, so this raises the question of how generalisable the findings are to other cases (Denscombe, 2007). In the context of my research, I did not aim to provide any generalisations given that it was only a small-scale study whose findings could not be generalised. I also agree with Wellington and Szczerbinski (2007) who argue that it is possible for readers to make connections or relate one case study to another, despite the fact that it is not possible to make generalisations from them. Moreover, my study is exploratory in nature and therefore, generalisation is not an aim of my study in this case. My study findings can shed important light on issues

around the implementation of the TP in general; however, the insights can only serve as a platform for further studies that can be conducted on a large scale with the possibility to generalise findings.

The fourth and last component of trustworthiness is dependability. Dependability is closely related to credibility (Lincoln and Guba, 1985). Researchers can enhance dependability by keeping a record of the research events (Lincoln and Guba, 1985). In my study, I made use of a research diary which included descriptions and reflections made during the entire research process. The perceived advantage of making use of a field diary is that it helps to ensure that the field notes are not contaminated by personal interpretation of events (Hennink et al., 2011). In my case, I was able to achieve this by ensuring that I recorded everything as it was without adding my own views. I was able to keep notes of thoughts on emerging ideas separately and this was helpful during the final analysis of events.

All in all, in this section I presented the quality criteria of my research. I would like also to highlight that there are some challenges and limitations as well regarding this process which are discussed in the last chapter of this thesis. The following section discusses the research approach adopted in my study.

4.5 Research Design

A number of research approaches are available, and researchers have to make a choice of an approach that is suitable to structure how they conduct their studies. The literature show that various terms are used to refer to research approach. For instance, Thomas (2009) uses the term "design frame" and argues that this 'provides the framework for [one's] research-connecting purposes with questions with the ways in which data can be collected' (p.99). On the other hand, the term "research strategy" has been used (Denzin and Lincoln, 2000) when talking about research design. Sikes (2004, p.16) gives examples of methodological approaches which include, case study, action research and life history, among others. These different terms (research strategy, research design or design frame) mean the same thing, that is, they can be used interchangeably. Hence, in my study, the term research design has been used.

As indicated earlier under the theoretical framework section, my study is guided by the interpretivist paradigm. I adopted the case study as the scaffold within which to structure my study. The rationale behind the choice of this approach is discussed in this section.

The use of case study in qualitative studies has been widely discussed (Yin, 2009; Thomas, 2000; Bryman, 2007; Thomas, 2000; Stake, 1995). Cohen et al. (2000) contend that qualitative researchers make frequent use of case studies to generate detailed information of the phenomenon under study. Bogdan and Biklen (1982) cited in Wellington (2000, p. 90) provide a commonly used definition stating that: 'a case study is a detailed examination of one setting, or one single subject, or one single depository of documents, or one particular event'. Stake (1995) concurs with this view stating that a case study is a research approach that focuses on the study of a "particular" entity. My study involved working with participants from five schools; however, the study focused on only one subject, that is, the participants' experience of the Tatweer Project. As argued by Yin (2009) a case study approach is appropriate when you seek to understand the experiences of participants in their real-life context. As observed by Yin (2009) there is a blurred line between phenomenon under study and its context. This is because "a case study is a study of a case in a context and it is important to set the case in its context" (Yin, 2009, p.18). Yin (ibid.) further contends that this research approach facilitates the researcher to explore "why?" and "how?" questions. My study sought to understand how the different stakeholders experienced the TP and also explored why they felt the way they did.

Several reasons prompted me to choose the case study approach in my research. Among some of the factors I considered when I decided to adopt, the case study approach is the limited time in which my study was to be conducted. As argued by Bell (1999) in a case study, there is an opportunity to carry out a detailed study of a given social phenomenon over a limited time. My study had to be conducted within the short period of my doctoral studies. Apart from limited time at my disposal, I also had limited resources (including financial and human resources) to be able to conduct a study on a large scale. As alluded to by Bassey (1999), the case study is criticised by other authorities for lack of generalisation of findings. However, Bassey (ibid.) argues that although it is practically impossible to make broad generalisations from case study findings, some connections can still be made between the case study and other similar cases. My aim was to conduct an in-depth study of the participants' experiences of the Tatweer Project and I was not focusing on extending my findings to other settings beyond my own study. I understood that despite the fact that I would be unable to generalise the study findings, some important insights could be gained and provide an important platform for further studies on scale. I also considered the flexibility afforded by this selected research approach

regarding the use of different methods for generating data. Merriam (1998) contends that the case study enables the researcher to employ any data collection method unlike the other quantitative designs. Similarly, Yin (2009) claims that case studies acknowledge and appreciate that there are plural variables that are functional in a single case. Bearing this in mind helps to appreciate that to develop an understanding of these variables usually requires different methods for data collection and several sources of supporting evidence. This means that the case study provides a potentially more comprehensive understanding of the participants' experiences in the actual context of the curriculum change (Yin, 2003). It also provided me with the opportunity to experience the environment in which the study took place to develop a more comprehensive view of the context of change. Adopting a case study approach left me with the opportunity to triangulate data collection techniques as explained in the following section. This was significant for me as I could assess the consistency of the findings and robustness of the interpretation of analysis. I also noticed that the few studies conducted in Saudi Arabia that focused on problems of a similar nature to mine adopted the same approach with a view to explore the phenomena under study. For instance, Al-Shibani (2015) used the case study approach to explore the factors affecting organisational change in education. Similarly, Alnefaie (2016) adopted a case study approach to understand the degree to which teachers were involved in curriculum development in the country. The next section focuses on the discussion of the methods I employed during data collection.

4.6 Research Methods

This section defines and justifies the techniques used to generate data in my study. Arguably, each data collection technique has got its perceived strengths and weaknesses. I chose to triangulate the data collection methods as I thought doing so would provide a detailed and comprehensive understanding of the phenomenon being investigated. Triangulating data collection methods refers to the use of more than one method to generate data in a given study (Cohen and Manion, 1994). I was aware that although there are no rigid rules on how the researcher should collect data, a number of factors still need to be considered during the data collection process. For example, deciding what data to collect, from whom and how to get access to the respondents (Bryman, 2008). Cohen, Manion, and Morrison (2000) emphasise the importance of ensuring that the selected methods are suitable for generating data for all the research questions. Similarly, Wellington (2000) advises researchers to consider the methods to be used for generating answers to the existing research questions in the initial stages of research planning. Table

3 below indicates that the same methods were used to generate data in each research question in my study.

Table 3: Research Question- method matrix

Main research question	Method (s) used for data collection
1-How did students, teachers and school heads in the participating schools in Saudi Arabia experience the Tatweer Project?	Semi-structured interviews and Focus group discussions.
2. What curriculum change issues were faced by participants (teachers and school heads) when the Tatweer project was implemented in the public secondary schools in Saudi Arabia?	
3. How can innovative projects such as the TP be introduced successfully in schools?	

A discussion of each of the research methods used for generating data in my study is provided below.

4.6.1 Semi-structured interviews

One of the key methods for data collection in an interpretive inquiry is interviewing. There exist different ways of structuring and conducting interviews. This is well illustrated by Wellington (2000) who says: "there are several different approaches to interviewing, therefore, different ways of designing and structuring them, and in turn, different techniques for conducting them" (p.71). Before I elaborate the specific type of interviewing that I used in my study, I will discuss the different types of interviews first and then use this information to justify my choice. The underlying definition of an interview is as stated by Wellington (ibid.) that it is a "conversation with a purpose" (p.71). In the same vein, Seidman (2006, p.7) states that: "I interview because I am interested in other people's stories. Most simply put, stories are a way of knowing". Basically, interviews enable the researcher the opportunity to learn more about the subject from the interviewee's perspective. By interviewing participants, you give them the opportunity to express their understanding of the issues under consideration, hence, it is important to ensure that interviewer and interviewee's roles are negotiated properly. Each interview will be structured and conducted differently according to the research aims. Three main types of interviews exist and these include structured, unstructured and semi-structured. As explained by Parsons (1984) cited in Wellington (2000) in a structured

interview, there is a predetermined list of questions, which are asked, in the same order without changing anything including the wording of the questions. Usually, this works well for use in situations where many interviewers are involved as it provides an opportunity to generate high degree of data quality and consistency. On the other hand, unstructured interviews, as the name suggests, do not have a fixed structure. In other words, this type of interview does not have a predetermined set of questions or any fixed order. The interviews will vary from one interviewer to the other. Parsons (1984) cited in Wellington (2000, p.74), this approach resembles the "probing or directed techniques adopted by the psychoanalyst". Usually, unstructured interviews can be helpful in the initial stages of the exploratory work but the downside is that it requires a high level of interviewer expertise and a deep understanding of the study aims and objectives. It can be difficult to generate good quality and consistent data when using this type of interview. The other type of interview is called semi-structured interview. This approach will involve the use of an interview guide, that is, a set of interview questions is prepared in advance to guide the interviewer. On the other hand, the interviewer has "considerable flexibility over the range and order of questions within a loosely defined framework" (Parsons cited in Wellington, 2000, p.74). The researcher is not worried about the order of the questions during the interview and can also make use of prompting questions to pursue issues in more detail. It is also possible to discuss other questions/issues not included in the interview guide thereby generating rich data for the topic under study.

It is also important to understand that these different types of interviews can be conducted in different ways including face-to-face, over the phone or internet-based (Robinson, 2016). Again, interviews can be conducted with individuals, that is, interviewer to-interviewee or to small groups of three to four interviewees depending on the research aims and the type of data that is of interest to the researcher (Robinson, 2016; Wellington, 2000). It is therefore important for the researcher to make considerations of the appropriate type of interview and the best way to conduct the interview. As a researcher, I had to make a choice of the most appropriate type of interviewing approach for my study and the way to conduct the interview. I discuss the selected interview type and how I proceeded with the interviewing process in greater detail in the following paragraphs.

The above Table 3 shows that all my main research questions required me to elicit individual experiences and views of the different stakeholders regarding the

implementation of the Tatweer project. Therefore, I decided to make use of semi-structured interviews. According to Wellington (2015):

> the purpose of the interview is to probe a respondent's views, perspectives or life-story, that is, the exchange should be far more one direction than another. It is rather more than a conversation with a purpose. The research interview's function is to give a person or group of people, a 'voice'. It should provide them with a 'platform', a chance to make their viewpoints heard (p.72).

Interviews were appropriate to use in my study given that my research questions sought to elicit subjective accounts from the participants. It was significantly important that each of the participants should be afforded an opportunity to articulate their individual perceptions and experiences of the Tatweer project. I had some clearly defined questions, but I also went to conduct the fieldwork with a great deal of flexibility to ensure that I could get additional information to what I anticipated. As a result, semi-structured interviews were the best option as they allowed me to have a guided conversation with each participant and at the same time there were opportunities for the participants to share more information without being limited by the questions on the interview guide (See appendix I for a sample of interview guide used in my study). During the face to face interviews I conducted with my participants, I tried to look for the voices and experiences that my participants held regarding the topic of my study. All interviews except one with a female participant were conducted face to face and this helped me to observe body language and to take some notes that I found useful during the data analysis. The interview with the female participant was conducted via Skype because it was not possible for me to interview her in the school. In Saudi Arabia, it is culturally unacceptable for a male researcher to interview a female participant face-to-face in the school context (Madini, 2016). Interviews help researchers understand the meanings and values of their participants (Opie, 2010). The interviews were conducted with school heads, teachers and policy-makers.

- Interviews with School heads

My study involved working with six school heads who had experienced the implementation of the Tatweer project. This included five male head teachers, that is, heads of boys only schools and one female school head from a girls only school. As indicated above different arrangements had to be made in the conduct of the interviews. I wanted to elicit their views regarding the introduction and implementation of the curriculum innovation. I had to visit each of the boys only schools to conduct the

interviews with the school heads. I contacted the school heads in advance to organise date and time for the interview. For the female school head, I could not visit the school as explained earlier. I was given the contact details of the female school head by a colleague and I emailed her to make arrangements for a Skype interview. It was not possible to recruit more female school heads given the cultural restrictions in the country. In Saudi Arabia, schools are segregated on gender lines and it is therefore difficult to visit or make contact with girls only schools if you are a male (Baki, 2004; Al Rawaf and Simmons, 1991). In my case, the MoE could not share contact details for girls only schools with me. Although gender was not an important variable in my study, it was useful to have both genders in the sample to depict the diversity of staff in Saudi secondary schools.

- Interviews with Teachers

I interviewed a total of ten teachers from boys only schools, two teachers from each of the five participating schools. I wanted their first-hand experience of implementing the Tatweer project (TP). The teachers had to have practical experience of the TP in order to participate in my study. Therefore, I ensured that one of the main criteria in selecting potential participants was that the teacher participants had to have at least three years of working in the school where the TP was implemented. Teachers who had participated in both phases of the TP were selected ahead of those who had not experienced the first phase of the project. These criteria were essential to ensure that the selected teachers would be able to articulate their experiences of the implementation of the TP with sufficient contextual knowledge. I felt that teachers with limited experience would not be able to make meaningful contributions to my main research questions. I shared my selection criteria with the school heads who then went on to help me to identify potential teacher participants. I made a request to the school heads to provide me with a list of names and contact details of teachers who met my selection criteria, that is, those who had participated in the implementation of the Tatweer Project for at least three years. I contacted the teachers on my own to ask if they would be interested to participate in my study. I did not want to involve the school heads in talking to the teachers directly as I feared that teachers would feel obliged to participate because of their relationship with the heads (Robson, 2016). I emailed the teachers and made arrangements to conduct debriefing sessions with individual potential participants. I made use of the sessions to discuss the important details of my study and the teachers were also able to ask questions regarding the implications of getting involved in the study (Creswell, 2007). Although the head teachers gave me more than two names of potential participants from their

schools, I contacted one teacher at a time to avoid having more than two teachers wanting to participate in the study from the same school. I stopped contacting more teachers from the same school once I got the first two participants from the school. During the debriefing sessions, I gave each of the potential participants the participant information sheet and allowed them to read and sign consent forms if they were interested to participate in the study. I deliberately concealed my position as an officer from the Ministry of Education to avoid influencing the teachers' decision to participate in the study; hence, I went to the schools in my sole position as a researcher. In this case, I made sure that the teachers would make independent decisions and choose to participate in my study voluntarily. During this process, I was reminded about the complexity of the research process and the ethical dilemmas one faces in negotiating power and the positioning of the participants. According to Jones (2006), the researcher's biographical background affects the positioning of the participants, so I knew that my participants would behave differently if they associated me with my position in the Ministry of Education. This might have influenced the quality of data, hence, I found myself in a situation that was "contradictory and conflictual" to my ethical integrity (Walkerdine et al., 2002 cited in Jones 2006, p.172). I felt as Jones (ibid.) says: "positions of power are always constructed and reconstructed through the interaction of the various individuals involved" (p.172). I did not have any access to female teachers given that I had no contact with girls only schools and I avoided creating unnecessary cultural conflicts by trying to get female schools involved in my study.

- Interviews with policy-makers

I included four policy-makers in my study. One of them was a district supervisor and the other three were all based in the Tatweer project department within the Ministry of Education. It was important for me to include policy-makers in my study, as I wanted to understand the driving forces behind the introduction and implementation of the Tatweer project. The four policy-makers were all involved directly with the implementation of the project, so they were able to articulate their views clearly including explaining the government policy on education under the Tatweer project. I was able to identify the 4-key policy-makers on the Tatweer project easily because of my status as one of the employees in the Ministry of Education (MoE).

- Interview Records

Literature reveals that interviewing may involve note-taking, audio-recording or video-recording (Wellington, 2000). Recorded interviews should then be transcribed to ensure that the data could be analysed effectively. All my interviews were audio-recorded. Details about the transcription and translation are provided later in this section. I was aware that the use of recording devices should be negotiated in advance with the interviewees as some may have concerns regarding 'data privacy or anonymity'. As advised by Wellington (ibid.), I found that use of notes and tape recording was helpful "to improve accuracy and the quality of data" (p.85). In my notes, I included such information as the date, time, place, context of interview and any other general observations that would help me to interpret the data correctly.

4.6.2 Focus Group discussion

An effort to triangulate data collection methods was made by using focus group discussions in addition to the one-to-one interviews described above. The use of focus group discussions in educational settings is growing (Cohen et al., 2011). Bryman (2004) considers focus group discussion as a typical example of a group interview in which there are different participants (in addition to the moderator/facilitator), and discussion of a selected topic. The focus is on the dynamics of the interactions within the group and the construction of meaning within the group. A focus group discussion relies on the interaction within the group of participants for the generation of credible data. As rightly observed by Krueger and Casey (2015), in focus group interviews, the researcher looks for the different views and opinions of participants regarding a certain topic. The focus group interviews are helpful for researchers as they give them the opportunity to look at the different themes of the discussions during the interview. The researcher brings participants together as noted by Hyden and Bulow (2003) cited in Cohen et al. (2011). The researcher selects participants from to discuss a chosen topic. It is important to note that the researcher will not have any previous relationship with the chosen participants. In the case of my study, the teachers and students would know each other as members of the same community, however, it would still be their first time to come together to discuss my research topic, that is, their experiences of the TP. The choice of focus group has been based on the perceived strengths of the approach as observed by Hyden and Bulow (2003) cited in Cohen et al. (2011) which include the ability to discuss a topic and generate sufficient amount of data in a limited timescale. I was aware that the amount of data generated in a focus group is less compared to what can be obtained in individual interviews of each of the members within a focus group. However, I was interested in

gaining a group view rather than individual perceptions. Several advantages of using focus group discussions are documented in literature. Some of the advantages of using focus group discussions that I found relevant in my decision-making are:

- "Focus on a selected topic;
- Identifying and developing themes, topic and schedules flexibly for future work, e.g. interviews and/or questionnaires
- Developing and evaluating data derived from several subsections of a given population;
- Gathering rich data;
- Encouraging participants to speak out, and in their own words
- Generating data quickly and at low cost
- Creating conditions for groups, rather than individuals to voice opinions
- Gathering data on interviewees' attitudes, values and opinions
- Providing widespread coverage of issues compared to surveys" (Morgan, 1988; Krueger, 1988; Bailey, 1994; Robson, 2002; cited in Cohen et al., 2011, p.436)

I conducted a total of six focus group discussions, five of these involved working with students and one involved working with teachers as described below. I conducted a focus group at each of the five participating schools. Each focus group involved talking to five students. The students were drawn from the classes of the two teachers who were participating in my study from each school. I asked the teachers to help me to identify five students from their classes. This meant that one of the teachers would identify two students and the other one would identify three students from their classes respectively. The criteria included the need to have a good representation of students from the three different levels in the school and to ensure that the selected students were good at speaking in a group with unfamiliar people. The teachers I worked with were teaching levels 1 to 3 at high school (equivalent to A level students in UK schools) and the students were aged between 16 and 18. The numbers of students from each level from the five schools are shown in the table 4 below.

Although the teachers shared the details of the study with the students when they selected them, I also made sure that I met with the students myself before the focus group meetings and reiterated the information about my study. The students had the chance to ask questions and I made it clear that participation was voluntary. Hennink et al. (2011) clarify that: "individuals should be provided with sufficient information about the

research, in a format that is comprehensible to them, and make a voluntary decision to participate in a research" (p.63). In the same vein, Newby (2010) emphasises that participants should be clear about their involvement in a study and consent should not be a mere signature. In tandem with this advice, each student was given an information sheet and asked to sign together with their parents if they were willing to participate in the study voluntarily (see appendix M).

Table 4: Composition of student Focus Groups

Focus Group in each school	Number of students from different levels			Total
	Level 1	Level 2	Level 3	
School A	0	3	2	5
School B	2	0	3	5
School C	3	2	0	5
School D	0	2	3	5
School E	3	0	2	5
Total	8	7	10	25

During the meetings, students were given the opportunity to articulate their experiences of the Tatweer project. I was interested to know if the students were informed about the project and how they felt about the project implementation. Furthermore, I carried out a focus group discussion with all the participating teachers in my study to establish the group feeling about the way the Tatweer project was implemented. This was to add on to the individual accounts I obtained during the one-on-one interviews with each of the ten teachers. The focus group was held at one of the schools with permission from the school head. The information obtained during the focus group discussions was useful when it came to the overall analysis of data from both students and the teachers.

4.7 Research diary

As indicated earlier, I made use of the research diary during the conduct of my study. I started using a research diary right from the beginning of my research project to ensure that I had a full record of my experiences during the study (See sample of my research diary in appendix H). Wellington (2015) points out that it is important to keep a research diary from the beginning adding that the content may include:

● ‘A chronological record of what was done, where, when, e.g. observed events, names of the interviewees, contact names for gaining access.
● A record of observations, field notes;
● Notes on methods and methodology;
● Questions, ideas, hunches, memos;
● Categories, patterns or themes beginning to emerge’ (p.110).

In the light of Wellington’s (ibid.) advice, I used my research diary to record my ideas, thoughts and reflections throughout the process of my research. I also found it very useful to write down my plans. In support of the use of a research diary, Dickson (2008) stresses that having a research diary through the course of my research facilitated “personal reflections on the development of the research to be recorded together with day-to-day observations’ (p.118). Having explained my research methods, the next section discusses how I conducted my data analysis.

4.8 Data Analysis

As indicated earlier, my study is qualitative in nature, hence, the adoption of a qualitative data analysis technique. I made use of the qualitative analysis method known as ‘thematic analysis’ which according to Braun and Clarke (2006) is defined as: ‘a method for identifying, analysing and reporting patterns (themes) within data’ (p. 79). I found this approach suitable to analyse my data for the following reasons: Firstly, it does not need to follow complicated rules or professional skills. A point highlighted by Braun and Clarke (2006) who clarify that thematic analysis is easy to apply as it can be achieved without having sophisticated theoretical and technical knowledge as is the case of approaches such as the grounded theory and discourse analysis. This approach is easy to use and can therefore be used even by early researchers. Secondly, this approach also seemed helpful to address my research questions. The nature of my study is an exploratory one; therefore, the search for themes and constructing was significantly important. Similarly, Schwandt (2007) points out that thematic analysis is a qualitative method that enables the researcher to explore the data, code and mark relevant parts of a text following a selected desirable pattern thereby identifying some key themes from the data. In order to identify the patterns within the data, Braun and Clarke (2006) suggest a process that consists of six stages that novice researchers (like myself) can follow in an effort to make sense of their data. The Table 5 below summarises the six stages.

Table 5: Thematic Analysis Phases

Phase	Description of the process
1. Familiarising yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	On-going analysis to refine the specifics of each theme, and the overall story the analysis tells; generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Adopted from Braun and Clarke, 2006, p. 87

Similarly, Wellington (2015) suggests six steps in dealing with qualitative data. The first step is the immersion stage, and this involves getting the general sense of the data by listening to the tape recordings or transcripts or notes. This is then followed by reflecting on the data by standing back or getting into it deeply to the level that one gets overdosed and sleeps on the data. The third stage is to break data into the pieces so that the categories and units of data can be divided into smaller themes instead of big chunks of interview transcripts. The fourth stage is synthesising data, which means searching for common patterns. The fifth stage comprises relating or locating data into the existing literature. This stage could reveal what theory or model was the result of the research findings and how they agree and disagree with established ones. In this study, I see how well my findings fit or conflict with the existing theories of curriculum change. I also compare the findings with the existing issues discussed in the literature, how my findings address them or contradict them. The final stage in Wellington's guideline is presenting qualitative data.

I really found Braun and Clarke's (2006) model, which is very similar to what Wellington (2015) elaborates, helpful to look at and make sense of my data. I will briefly discuss how I adopted and applied the model step by step in the context of my study. The first stage which involves the familiarity aspect started when I started listening to the recorded interviews and writing down some reflections. The familiarisation phase helped me to understand the nature of my data. In this respect, Ritchie and Spencer (1994) advise researchers 'that before beginning the process of sifting and sorting data, the researcher must become familiar with their range and diversity, must gain an overview of the body

of material gathered' (p.178). I really found this stage very helpful to increase my confidence with analysis of the research data.

After the familiarisation phase comes the second stage which involves generating initial codes. In this phase, as Miles and Huberman (1994) explain, researchers start to make a clear distinction and to combine the data and reflections they make. Moreover, the two authors define coding as allocating labels or name to chunks or segments of a text. As a result, I started giving name to the important chunks of my data. The next stage which is stage three is about searching for themes. Researchers in this stage try to sort the various codes into themes and link them to the relevant extracts of data (Braun and Clarke, 2006). Thus, during this stage, I sorted my code to shape different themes and the thematic map started to emerge. Stage four is concerned with reviewing the different themes and making sure that they are linked to the extracts they refer to. This perspective is supported by Boyatzis (1998) who acknowledges that it is important for researchers to verify the link of the themes in the data set. The fifth stage involves defining and naming the relevant themes. Researchers start to define and name their themes after they have developed a satisfactory thematic map. It is also important for the researchers to use clear and understandable concepts when they try to define themes (Boyatzis, 1998). Therefore, I kept all my concepts clear and simple which was very helpful for me to present them in the analysis. Stage six which is the last step of the thematic analysis is about report writing. At this point, researchers produce the last report which contains vivid extracts and relate them to the relevant study questions and literature (Braun and Clarke, 2006). Similarly, I selected the significant extract examples and made an interpretation of the meaning they have and linking them to my research questions and literature. See appendix F for an example of an Excel document produced during the data analysis process.

The themes identified from the data are discussed in the following chapter. In line with the activities involved in the process of data analysis, I had to transcribe and to translate the interviews that I conducted. The following section discusses the interview transcription and translation.

4.9 Interview Transcription and Translation

My study involved conducting interviews and focus group discussions in Arabic and then translating and reporting the data in English. This was because my participants understand Arabic and were not able to use the English language, so I wanted them to articulate their

experiences fluently using their own language. The advantage was that the Arabic language is my first language too, so I could understand the participants and then express the data in English language. The big challenge for me was that this became a time-consuming process given that I had to listen to all the audio-recorded interviews in Arabic, transcribe them in the original language and then translate the transcripts into English (See appendix J for a sample of an interview transcript in English).

The use of interview transcription and translation in qualitative studies is discussed in literature. For instance, Temple and Young (2004) contend that a bilingual researcher can conduct the translation of his/her research. They also explain that translation should be guided by the theoretical framework of the inquiry and the aim of the study. In the context of my study, which is conducted in line with the constructivist perspective, the translation does not need a professional translator, but it needs to be a credible and correct reflection on the original meaning of the participants' voice (Temple and Young, 2004). Therefore, I was aware of the need to be honest and transparent during the translation to keep the same meaning reflected in the original transcripts in the final report. I also kept in my mind 'that only by making translation visible and through open dialogue can researchers uncover the richness embedded in the data and facilitate multiple ways of knowing' (Wong and Poon, 2010, p.151).

The use of audio-recorded interviews helps to ensure that the researcher focuses on asking questions and not get distracted with note-taking (Bryman, 2004). However, the down-side is that the interview transcription process is a very long process. According to May (2001) recording interviews can facilitate the process of data interpretation given that the interviewer can focus on asking questions and keeping record of non-verbal gestures while conducting the interview. For effective interpretation of findings, it is vitally important to ensure that transcription is done properly. In order to have an accurate and appropriate set of data, I had to transcribe the audio-recorded interviews in the original language of the interviews and then translate the transcripts into English (Hennink et al., 2011). After transcribing the interview data in Arabic, I shared the transcripts with the participants, so they could confirm the credibility of the data (see appendix E). After that, I then translated the transcripts into English for subsequent analysis of data. Given that I wanted to keep the promise to ensure participant anonymity and confidentiality, I was compelled to do all the interview transcription and translation by myself.

My experience of conducting research in Saudi Arabia using Arabic and then transcribing the interviews for subsequent translation into English appears to be the common practice with researchers in the country. Some of the studies I came across were conducted by other doctoral students and they had to conduct their interviews in Arabic citing that this was necessary since the participants were not conversant in English (Meemar, 2014; Al Shibani, 2015; Alnefaie, 2016). For instance, Al Shibani (2015) conducted interviews and audio-recorded them where possible. She had to take notes as well during some of the interviews because the participants were not happy to be audio-recorded. I became aware that some participants would agree to participate in the study but refuse to be recorded, hence, in my study I also made use of note taking. This also served as an important way to complement the recorded data in some cases. As argued by Belk, Fischer, and Kozinets (2013) the notes were helpful in terms of recording what was said and to record other behaviours that could not be captured in the interview transcripts. In his study, Al Shibani (ibid.) formulated his questions in English and then translated them into Arabic and then the responses were translated into English after transcription. The translated transcripts were then independently checked by a translator specialised in linguistics and translation studies. Similarly, Alnefaie (2016) conducted semi-structured interviews in his study involving school teachers. He clarified that: "to ensure that participants could fully express their opinions and thoughts with confidence, as per participants' request, interviews were conducted in Arabic, the participants' and the researcher's first language" (Alnefaie, 2016, p. 6). All interviews were audio-recorded and then transcribed in Arabic to ensure that no meaning and quality was lost when conducting the data analysis. In this case, the translation was verified by another PhD student who was fluent in Arabic and English to ensure transparency (Alnefaie, ibid.). These studies enlightened me on the need to use Arabic in my interviews. I found that this approach helped the participants to express themselves freely and to share their experiences of the TP with confidence. I was able to access more information than what I could have achieved had I conducted the interviews in English. However, in my case, I did not engage a third party to check the translation. The reason for this was two-folded: firstly, I speak English and Arabic fluently, so it was easy for me to translate Arabic to English, and secondly, for ethical reasons, I wanted to keep my promise of not passing the data to a third party without the consent of my participants.

Transcribing and translating the data was an important learning curve in my research journey. As described by Nikander (2008), I also appreciated that: 'despite the technical

guidelines, transcription remains a time-consuming, messy and imperfect process…' (p.226). However, it was an integral part of my study for the analysis of findings. I was informed about the importance of ensuring that 'the translation provided the readers with as much information on the original as possible' (ibid, p.227). During the process, I faced some challenges that are discussed in the following paragraphs.

According to Temple and Young (2004), researchers coming from different backgrounds and different cultures may find some methodological and epistemological challenges when they attempt to construct meanings about people's experiences in different social contexts. Knowing that, translation has a massive impact on the credibility of the study findings and ethics of conduct (Temple and Young, 2004), my big challenge was to conduct the translation of the interview transcripts from Arabic into English with the accuracy and appropriateness of meaning as the two cultures are different. The challenge of translation comes from the idea that it is not always easy to find the exact equivalent participants use among the relevant languages. In this respect, Esposito (2001) highlights that some concepts are hard to translate because cultures are different and one specific concept may have different connotations in different languages. Similarly, Birbili (2000) explains that researchers not only need to be good at translation, but they also need to be good at understanding the target culture. I did my best to make use of the notes recorded in my research diary in order to understand and reflect on the interview context during the data analysis. Having briefly described the method of analysis adopted in my study, I feel it is important for me to highlight that I found thematic analysis very helpful to describe and interpret my data. However, I also faced some challenges and obstacles, which I will mention at the end of this thesis in the section of limitations of the study. The next part discusses details about the study participants and the sampling strategy.

4.10 Study participants

The conduct of my study involved working with five secondary schools in Saudi Arabia. All the participating schools were selected because they were involved in the implementation of the TP during the project lifetime. This was an important selection criterion since I was interested in finding out the experiences of the different stakeholders who participated in the implementation of the TP. From each school, I included the school head, two teachers and five students in my study. The study also involved interviewing a female school head from a girls only school. In addition to this, the study also involved

interviewing four policymakers from the Ministry of Education who played an important role in the planning and implementation of the TP.

4.10.1 Sampling strategy

As discussed in chapter two, many schools across Saudi Arabia participated in the implementation of the TP. In line with my study aims and objectives, I had to work with a small sample of the TP schools as explained above. It is important for researchers to sample their participants because it would be practically impossible to collect data from the entire target population (Cohen et al. 2007; Creswell, 2007). Arguably, sampling is something that we do in our daily life, for instance, we smell a perfume bottle before we buy it and assume that the entire perfume that is in the bottle will smell the same (Wellington, 2000). However, sampling can be a difficult task in educational research because it may not be possible to claim that all perfume bottles of that type as in the previous example will smell the same (just because one bottle smells so). It can be difficult to suggest that curriculum changes occur in the same way in all schools in a country. Bryman (2008) categorises sampling into two main categories – probability and non-probability. The first kind is commonly used in quantitative research and usually uses scientific mathematical formulae while non-probability sampling is applied in qualitative research. In the context of my study, purposive sampling, a non-probability sampling method, was adopted.

According to Creswell (2007) when applying purposive sampling, the researcher can choose a sample at different levels from case level to participant level. In this research, I used purposive sampling with a typical case sampling (Wellington, 2000). In this case, it can be understood how a particular curriculum change has affected similar cases. I selected public secondary schools in four different districts in one of the major cities in Saudi Arabia. As indicated earlier, my participants were drawn from different levels including students, teachers, school heads, and policy makers. Common or uncommon patterns that the participants faced during the implementation of the Tatweer project across the four districts is explained and examined in my study. The choice of the city and the schools was based on easy access for me and the fact that the selected schools had participated in the implementation of the Tatweer project.

4.10.2 Sample Size

The sample size in qualitative research can be flexible; it varies depending on the methods used for data collection. Qualitative researchers study fewer cases in most cases. The nature of qualitative research is to investigate topics at a deeper level compared to quantitative research (Bryman, 2008). I was mainly concerned about understanding the implementation of the Tatweer project in detail and I had no intention to generalise my findings. As a result, a small sample was a good choice for me. The following Table 6 shows a summary of my sample.

Table 6: My study sample

School Code	Participant	Total	Research Method (s)
SC1	School head	1	Face-to-face interview
	Teachers	2	Face-to-face interview and Focus group discussion
	Students	5	Focus group discussion
SC2	School head	1	Face-to-face interview
	Teachers	2	Face-to-face interview and Focus group discussion
	Students	5	Focus group discussion
SC3	School head	1	Face-to-face interview
	Teachers	2	Face-to-face interview and Focus group discussion
	Students	5	Focus group discussion
SC4	School head	1	Face-to-face interview
	Teachers	2	Face-to-face interview and Focus group discussion
	Students	5	Focus group discussion
SC5	School head	1	Face-to-face interview
	Teachers	2	Face-to-face interview & Focus group discussion
	Students	5	Focus group discussion
Sc6	School head	1	Skype interview
MOE	Policy-makers	4	Face-to-face interview

Prior to the conduct of the main study, I conducted a pilot study and the following section describes details of the pilot study.

4.11 Pilot study

According to Borg and Gall (1983), the conduct of a pilot study usually helps the researcher to identify some new ideas about their study. It is possible to identify new approaches and ways of handling the effective conduct of the main study. In the words of Borg and Gall (1983), "such ideas and clues greatly increase the chances of obtaining clear-cut findings in the main study" (p.101). Thus, a smaller version of the main study was conducted as a pilot study before embarking on the main study and this helped me to verify the adequacy of my data collection tools, among other things. In the same vein, Newby (2010) defines a pilot study as "an investigation that takes place before the main investigation and which is designed to test and evaluate the effectiveness of the research procedures" (p.661). In some cases, a pilot can be conducted to test the effectiveness of the data collection instruments only, for example, a questionnaire. As indicated by Oppenheim (1992) cited in Cohen et al. (2011), "a pilot has several functions, principally to increase the reliability, validity and practicability of the questionnaire" (p.402). My study involved using interviews and focus group discussions, so I had to conduct a pilot study to have an idea of how my interviews would develop in the main study. I wanted to know whether I was asking the right questions and the type of data that the interviews would generate. The way piloting can be done is discussed extensively in literature and it is quite clear that there are different ways of conducting pilot tests. The following are some of the ways that I considered. According to Cohen et al. (2011), pilot can be done in the following different ways:

- "A small group of experts can examine the items in the test, their suitability, validity, relevance, possible cultural biases and sources of invalidity and unreliability, remoteness from the test-takers' experiences
- A small group of test-takers, asking them to give feedback on:
    - The clarity of the items, instructions and layout
    - Ambiguities or difficulties in wording
    - Readability levels and language problems for the target audience
    - The type of questions and their format
    - Response categories for closed questions and multiple-choice items
    - Omissions, redundant and irrelevant items
    - The time taken to complete the test
    - The complexity of the test items

- A larger group of test-takers, to be able to gather sufficiently large-scale data to calculate reliability levels, item difficulty and item discriminability, to identify commonly misunderstood or non-completed items and to check which items are consistently omitted or not reached" (Cohen et al. 2011, p.492).

Although in my case I was not focusing on administering any test per se, I found the ideas by Cohen et al. (2011) above very useful. In my pilot I decided to work with a small group of participants to have an idea of how my interviews would proceed in the main study. More details about the pilot study I conducted and the lessons I drew from them are discussed below.

I conducted interviews with three teachers from Saudi Arabia one of them through Skype while I was in UK and two face to face interviews. On Friday, 27th of February 2016, I decided to conduct the pilot study (after consulting both of my supervisors). Therefore, I made a post on the social media (WhatsApp, Viber and Facebook) to ask for some Saudi volunteers for my pilot study. The post was written in Arabic and contained the following message:

> "Dear Brothers, (Aslam Alikum) My name is Saleh Alghamdi, a PhD research student at the Department of Educational Studies of the University of Sheffield. I am doing research about the implementation of the Tatweer Project (TP) in Saudi Arabia. As part of this research, I am planning to conduct a pilot study where I need to interview some volunteers and ask them about their views, experiences regarding the TP. The permission to conduct the research has been granted by the University of Sheffield. Thus, I would be very grateful if you are willing to take part in my study. I would also want to assure you that the obtained data would be dealt with confidentially and anonymously. Finally, I am in the UK now, so the interviews will be either by Skype, phone or any other means you feel happy with. If you require any information, please do not hesitate to contact me as soon as possible on: soalghamdi1@sheffield.ac.uk or call me at: 00447442559835 (BEST REGARDS)".

Three participants participated in the pilot study voluntarily. One of them was based in the UK. The other two participants were in Saudi Arabia. The reasons for interviewing only three participants are: 1- Those were the only people who responded to my call for participation in the pilot study. 2- At this stage of my study (piloting), I found this number helpful to reflect and test my interview tools and prepare myself for the main study. I was happy that the participants were able to understand my questions easily during the interviews. This helped me to know that my interview questions were clear and easy to understand.

The following section provides a description and a reflection based on each of the three interviews I conducted with teachers during my pilot study. I would also like to highlight that after each interview I immediately wrote down my own reflections in my 'research diary'. I would like also to highlight that the interviews were conducted in Arabic and I made use of a digital voice recorder to record the face-to-face interviews. In the transcription phase, I first transcribed each interview into Arabic and then translated them into English.

4.11.1 Interview 1

This was a Skype interview with a teacher called Fisal[1] who lives in Saudi Arabia and who volunteered to participate in my study as soon as I posted my call for participation on Social media. After he agreed to take part and read the information sheet, I asked him to confirm his consent to participate in the pilot by signing two copies of the consent form and I retained one copy for his reference. The interview lasted for 33 minutes, the interview was conducted in Arabic. Fisal is a school teacher who had an additional responsibility of being the school deputy head. He had been in the education sector for 14 years. I started the interview questions generally as (warming up or breaking the ice) asking about his educational background. Then, the questions started to be more focused and research oriented. For example, I asked him "Can you please tell me what you know about TP", he replied "The aim of this project was to make some changes. However, it was not successful at all in schools. This is what I actually have observed". It seems that Fisal was completely unhappy about the outcome of this project. Another question I asked was "How was TP different from any other programmes or projects implemented in the schools?" Fisal replied, "I mean there is a complete difference between omission and alteration. The latter refers to changing some topics with other topics or adding some information within certain topics and the former refers to a complete deletion which indeed meant a big change, but not the intended change". There was another question about the way of teaching; I asked Fisal if the TP changed the style of his teaching of which he answered: "It was supposed to do so, but in real life situations it did not. You know, I had a chat with one of the teachers about the teaching methods. The teaching methods are still the same ones that have been used for more than a decade". Fisal also pointed out that the teaching in Saudi Arabia focuses on theories more than practicalities.

[1] This is a pseudonym. Please note that all the participants' names are not real names.

He gave an example about students who do computer sciences stating that they are usually taught only theories in their field neglecting the practical side of that. During my interview with Fisal, he looked unhappy and not very comfortable with the TP. In other words, Fisal believed the TP did not achieve its aims. This is mainly because it was not implemented in all schools. I have briefly described the interview I held with Fisal and in the next section; I provide some reflections made from that interview.

- **Reflections on Interview 1**

This was really a new experience for me and it helped me to start to build up my confidence to interview participants. I found using on-line interviews very helpful and saved effort and time. I was pleasantly encouraged to notice that some of the school teachers were willing to spare their time and talk to me about their experiences of the TP. However, I noticed that there was some kind of hesitation (fear) to give some information about this project. Therefore, I realised the need to continually mention that everything would be confidential and anonymous. This also prepared me psychologically and I could tell that during the main study apart from reassuring participants about their safety and confidentiality, I was supposed to be prepared to use a number of prompting questions to access more information about the TP. Fisal also told me that the Ministry of Education sent a questionnaire about TP to some schools and I took a note to ensure that I got hold of the questionnaire during my field work. During the translation process of the Arabic transcript into English, I was aware that it is a challenge to keep the same meaning when translating but I gave a sample of the translation to an Arabic interpreter who agreed that the translation was objectively done, that is, the translated transcript had the same meaning as the original. During this interview I found some new themes which were not included in my interview guidelines like “electronic books”, the difference between the terms “change” and “develop” or “improve” for cultural reasons, also the term “educational leader” is used instead of “headmaster”. This was useful information as I prepared to conduct the main study. Having briefly discussed the first interview in the pilot study, in the next section, I will describe and discuss interview 2

4.11.2 Interview 2

This interview was a face-to-face interview with Ali, a Saudi teacher who was living in the UK at the time of the interview. After he agreed to participate in this pilot study, I sent him the information sheet about my research. We arranged to meet, and I asked him

to sign the consent form as part of the University's ethical procedures. This interview was in Arabic and lasted for 29 minutes. Once again, I started the interview with some warm up questions. Ali taught Islamic studies in Saudi Arabia in primary and secondary schools for six years before he came to the UK for a PhD course. Ali told me that he was interested in the TP project and it was the topic of his Master's research project. He explained: "The stuff I read and heard about TP was promising. However, I am not sure if it was successful as it was only implemented in a few schools". Ali also highlighted that schools used to have the Arabic language course included in three course books. However, now only one textbook is being used. This view runs in parallel with what Fisal already stressed. I asked Ali about how he knew about TP, he simply answered, "I only knew about that from media, I also visited some internet websites that I used for my research during my master's degree course". In the following paragraph, reflections I made from the interview with Ali are presented.

- **Reflections on Interview 2**

During this interview, I realised that some teachers knew about the TP only from media, as they were not directly involved with the project implementation. Despite the newly introduced textbook that contains some innovative teaching strategies, the style of teaching is still based on memorising skills. I was also told that students at international schools are performing better in English than students in public schools. Moreover, teachers are not consulted about the curriculum design. However, they are usually asked to give some evaluations after implementing certain programmes. Lastly but not least, the next section presents a description of the third interview.

4.11.3 Interview 3

This interview also took place in the UK, with Falah who is a PhD student in the UK. This interview lasted for 28 minutes. Falah studied at King Saud University where he obtained a BA in Islamic Studies and an MA in Curriculum Design for Islamic Studies. After asking him some warm up questions, I started exploring his experience about the TP and he pointed out "I think the TP aimed at developing the style of teaching, students' academic performance and the quality of textbooks. However, there has been no significant changes at these three levels after the implementation of this programme". I asked him how he knew about the TP, he answered, "I only heard about it when I was doing my masters and visited their website, but there were not any announcements about

it in schools". Falah told me about a new idea that was introduced in his school and he is not sure if it is part of the TP or not. The idea is that there is a teacher called "talent's teacher" who selects students who are excellent at certain subjects like mathematics, physics and focuses on building up their abilities. My personal point of view of this is that teachers need to focus on all learners and try to build up their skills. Moreover, the use of the label "talent's teacher" might indicate that learning is a talent not the outcome of teaching. Falah seemed to be annoyed as he explained that he is an expert in curriculum design but had no chance to send his own voice and ideas to the Ministry of Education regarding curriculum design. Falah shared some interesting definitions of curriculum. He said there are two definitions of curriculum, the old definition of curriculum that means textbooks and the new definition that encompasses all that is inside the school environment. He pointed out that the TP was planned to improve the latter.

- **Reflection on interview 3**

During this interview, I realised that I became more confident at my interview skills. Falah told me that some experts are not consulted regarding curriculum design. I understood that students' level in English language is still weak. Generally speaking, this was my first time in life to interview people and ask them about their ideas in an education research context. This new experience has positively impacted on my interview skills. It also helped me to refine my interview guides. The next section discusses the ethical issues I considered in the conduct of my study.

4.12 Ethical considerations

It is clearly stated in the research literature that:

> [I]n all research involving the collection of data from human beings, there is a fundamental moral requirement to treat those people in accord with standards and values which affirm their essential humanity. The research context is really no different in this respect from any other context in which human interaction takes place (Oliver, 2010, pp. 12-13).

It is clear in the preceding quotation that researchers dealing with human beings are required to follow some ethical procedures before and during the conduct of their studies. According to Oliver (2010), researchers should think about all the ethical concerns from the early stages of their research projects. The research design process and decision about methodology informs how the researcher talks with the participants. In this respect,

Cohen et al. (2007) explain that 'each stage in the research sequence raises ethical issues' (p. 51). Similarly, Oliver (2010) argues this is a very important factor in educational research because data about school and student's performance are usually collected, used for analysis, and published after the research project is finished (Oliver, 2010, p.9). In the same vein, Denscombe (2007) indicates that all social research should be ethical and needs to:

- 'Respect the rights and dignity of those who are participating in the research project;
- Avoid any harm to the participants arising from their involvement in the research;
- Operate with honesty and integrity' (p. 141).

The following section discusses the important ethical considerations that guided the design and conduct of this study.

4.12.1 Seeking permission to conduct the study

The first step researchers need to do before they start collecting their data is to ask for the official permission from the target community. This means researchers need to officially contact either in person or in writing the people in charge in the proposed institution (Cohen et al, 2007). In this respect, Denscombe (2007) highlights that: 'identifying key people who can grant permission, and successfully negotiating with them for access to people, places and events, is often a prerequisite without which the fieldwork cannot begin' (p.71). In the context of my study, I contacted the relevant institutions both in person and in writing. After being granted the ethical approval letter (see appendix G) from the School of Education at the University of Sheffield, I set off to contact the schools where I was going to conduct my study in Saudi Arabia. I first sent them an official email then arranged a personal meeting where I introduced myself and the purpose of my research. During this stage, I have been always aware that access to the fieldwork is not a matter of right but is solely based on the respondents' agreement (Cohen et al., 2007).

4.12.2 Accessing Educational Research Settings

The issue of accessing the research setting for any researcher is an important issue that must be thought about in advance. Wellington (2000) provides a five-point guideline that an educational researcher needs to consider when seeking access to any educational institution. First, it is important to remember that researchers maybe viewed differently in different educational institutions regarding their roles. In the context of my experience, I worked in the Ministry of Education (MoE) for almost five years; I imagined that the

participants would see me as a friend who is passionate about inspiring developments in education at national level. I had known some of them and had been working in the education sector for the past twenty years. The other side of this was that some participants felt that I was carrying out the research on behalf of the MoE with a view to establishing how they work in the schools. I was honest and reassured the participants that all the information they provided would be confidential and that the study was being conducted for academic purposes only. Secondly, it is important to establish individual contacts of the people who may be helpful when finding access to the participants. I had a list of the contact details of all the key people who were helpful in giving me access to the field. Thirdly, I informed my participants about the estimated time for my interviews. Fourth, I was completely aware that some sensitive topics could only be discussed if they wished to do so. One example of sensitive topics is religion. In Saudi Arabia in general, people do not always feel free to speak out on any subject for fear of victimisation (Rugh, 2002). This constitutes a formidable challenge for researchers, as they have to find effective ways to ensure that they are welcome and that they get the information they want. In summary, since I worked in the education sector for a long time and I had personal experience as a teacher, I believed that getting access was not supposed to be a difficult problem. However, I still needed to find ways of getting the participants to share their experiences freely.

4.12.3 Informed Consent

It is important to provide participants with information in advance regarding the tasks they are expected to undertake during the research study. Informed consent also helps participants to know the nature and type of the research methods (Denscombe, 2007). This means that participants should not be compelled to participate in the study. Participants should engage voluntarily in the study and the decision to participate in the study should be based on sufficient information about the project. It is only when potential participants have full information that they can make a good judgement as to whether they want to participate in the study or not (Denscombe, ibid, Hennink et al., 2011). As explained in literature, informed consent requires an explanation and description of several aspects, including, for example:

- ‘The purposes, contents and procedures of the research
- Any foreseeable risks and negative outcomes, discomfort or consequences and how they will be handled

- Benefits that might derive from the research
- Incentives to participate and rewards from participating
- Right to voluntary non-participation, withdrawal and re-joining the project
- Rights and obligations to confidentiality and non-disclosure of the research, participants and outcomes
- Disclosure of any alternative procedures that may be advantageous
- Opportunities for participants to ask questions about any aspect of the research
- Signed contracts for participation' (Cohen et al., 2007, p.55).

Accordingly, as indicated earlier, I gave all my participants an information sheet (see appendix K for the other participants and appendix M for student participants) that explained all the details they needed about the nature of my research. All the participants had an opportunity to ask questions and clarify all the details they needed to know before consenting to take part in the study. They were also asked to sign two copies of the informed consent forms (see appendix L for the other participants and appendix M for student participants) where they could retain one for their reference.

4.12.4 Confidentiality and Anonymity

Anonymity means that researchers should in no way reveal any information that may reveal the participants' identities (Cohen et al., 2007). Thus, researchers need to "change the names to ensure anonymity (unless you have their explicit permission to reveal the person's identity)" (Denscombe, 2007, p.200). Consequently, I used pseudonymous names for the schools and all the participants in my study. I gave the participants the assurance that all the information they were sharing with me during interviews was going to be kept in confidence. I conducted all the interview transcriptions and translations by myself to maintain participants' confidentiality. The participants were assured that no other third party apart from the study supervisor and/ or the examiner was going to access recorded data without the participant's consent. All the recorded data were kept in a password locked personal computer and assurance was made to the participants that all these data were going to be destroyed carefully when the study is finished.

4.12.5 Avoiding Harm

Social science research may physically, psychologically or even socially harm participants (Neuman, 2007). As a result, researchers need to 'avoid any harm to the

participants arising from their involvement in the research' (Denscombe, 2007, p.141). Moreover, researchers need to be held responsible for any effects that the study may have on participants (Willig, 2008). As a result, I explained the purpose of my research to my participants so that they do not feel that they are under investigation. Furthermore, I informed them that all the information they provide would be confidential and anonymous in order to make them feel relaxed. I also told them that they could quit the interview whenever they like without giving any reasons. Generally speaking, I was always aware that I need to keep my participants safe and not to cause any sort of harm to them.

4.12.6 Voluntary participation

I was aware that when undertaking a study, one of the ethical guidelines stipulates that all the participants should participate voluntarily in the study with no coercion at all. As explained earlier, all participants were debriefed which means they knew what the study involved and what participation in the study would entail. The participant consent forms I used stated clearly that it was the participants' choice to take part in the study. I knew that as an employee in the Ministry of Education, some of the teachers and students would feel obliged to participate; however, I kept a researcher position and made it clear that this had nothing to do with my work engagements in the Ministry of Education. I gave this explanation as a deliberate attempt to make sure that no one felt pressured to participate. During the interviews, I made sure that I repeatedly reminded the participants that it was their own choice to participate and that they could withdraw from the study without any negative consequences. The participants were also given a choice regarding whether they wanted to be recorded or not during the interviews. I knew as advised by Wellington (2000) that it is important to keep an eye on data privacy and anonymity issues during the interview recording. My contingency plan was to rely on note taking in the event that someone did not feel comfortable being recorded.

4.13 Chapter conclusion

The main concern of this chapter was to clarify the research methodology, the methods used and the ethical considerations that guided the way this study was conducted. Conducting a pilot study was a worthwhile experience as this helped me to refine my data collection tools and to know the importance of building good relationships with participants. The big challenge was to maintain a researcher-qua-researcher position

during field work and data analysis. The following chapter focuses on the data analysis and the presentation of findings.

CHAPTER 5: RESEARCH FINDINGS AND ANALYSIS

5.1 Introduction

This chapter contains primary data generated from my study, which involved use of different methods that include semi-structured interviews and focus group discussions. As outlined in the preceding chapter, the participants in my study included policy-makers from the Ministry of Education, school heads, teachers and students. The study investigates the implementation of the Tatweer Project (TP). The effective implementation of a curriculum innovation such as the TP is dependent on a matrix of complementary factors working together. My study sought to establish how the TP faired on the ground and the review is based on the perspectives of the main stakeholders. Data analysis took a thematic approach. The research questions are used as the principal lenses to illuminate areas of success and areas presenting challenges in the implementation process. It is hoped that this information might help to point out the areas to be addressed in future to ensure that similar curriculum innovations can achieve the desired goals. As highlighted in chapter 1, the research questions explored in this study are:

1- How did students, teachers and school heads in the participating schools in Saudi Arabia experience the Tatweer Project?
2- What curriculum change issues were faced by students, teachers, school heads and policy-makers when the Tatweer project was implemented in the public secondary schools in Saudi Arabia
3- How can innovative projects such as the Tatweer Project be introduced successfully in schools?

In an effort to help the reader to understand the data easily, I decided to analyse and present the data generated from documentary evidence and interviews with each sub-group of participants separately, that is, the following categories will be used:

- The Tatweer Project: Interview data
- Data from the policy-makers in the Ministry of Education
- Data from school heads
- Data from teachers
- Data from students

5.2 The Tatweer project: Interview data

The data provided in this section came from interviews held with the Ministry of Education (MoE) officials. The focus here is to clarify the two phases that the TP went through in its implementation including the administrative structure of the TP phase 2. My study involved talking directly to the different stakeholders who participated in the implementation of the Tatweer project. The data presented in this section is a synthesis of both participants' perspectives and documentary evidence and complements the TP background and contextual information provided in chapter 2. Interview data confirmed that the TP is a brainchild of the MoE The project was funded by the Government and was coordinated by the MoE. Conversations with Ministry of Education officials and other stakeholders including school heads and teachers helped me to understand that the TP was implemented in two phases using different approaches. The project was introduced in the schools using a top-down approach in the first phase and the second phase adopted a school-based curriculum model. The first phase started in 2007 and was meant to cover a 5-year period. This was basically a pilot stage of the project and was meant to lead to a second phase involving the scaling-up of the project across the country. However, it emerged that the first phase did not yield the expected results and it stopped before the end of the projected 5-year plan.

According to the policy-makers, that is, MoE officials and Tatweer project officials~~,~~ the second phase brought in significant changes to the initial plan. Instead of expanding the TP as it was planned in phase 1, TP phase 2, actually involved implementing a different strategic plan. The policy-makers clarified the major distinction between phase 1 and phase 2 stating that while the first phase placed emphasis on the integration of information technology facilities in the schools, the second phase focused on developing each school depending on their needs. Using the school-based model in phase 2, each school was now expected to identify their needs and get support from the TP Company to address their felt needs. Therefore, in this phase, the management of the TP was shifted from the MoE. A new company was formed, and this company operated as a separate entity but under the overall authority of the MoE. It was charged with the responsibility to coordinate the implementation of the TP phase 2. Interviewing policy-makers helped to clarify the period in which phase 1 and 2 took place. For instance, phase 2 changes took place in 2010, that is, three years after the implementation of TP phase 1.

After realising that TP phase 1 was not producing the desired outcomes, the MoE came up with a new strategic plan for the development of public education in the country. Below are the details of the changes of TP in phase 2.

5.2.1 The Tatweer Project Implementation: Phase 2

The interview data revealed that the implementation of the TP underwent some radical changes in 2010. New administrative structures were put in place and the project management style also changed. The new strategic plan that the MoE developed was to be implemented through a state-owned company called the Tatweer Educational Services Company. The company was to work in collaboration with the MoE but had the full responsibility to implement the TP phase 2. Unlike in the first phase, the focus of the TP phase 2 was no longer centred on providing new technologies to the schools, that is, the aim was no longer that of promoting smart schools. There was a realisation that each school had different needs and therefore required different resources to address their needs. Instead of implementing ideas from the MoE, the schools were now expected to play an important role of identifying their own needs and asking the Tatweer Educational Services Company for relevant support to address their needs. According to Saeed, one of the policy-makers, 'the company established four main departments that would provide specialist services to all the participating Tatweer schools'. The four departments included:

- The Tatweer Company for Educational Services (T4edu)
- The Tatweer Buildings Company (TBC)
- The Tatweer Educational Transportation Services (TTC)
- The Tatweer Educational Technologies (TET)

Each department had a specific responsibility, for instance, T4edu was the main department responsible for the implementation of all the teaching and learning activities; this includes the development of new curriculum materials such as textbooks and the development of new teaching methods. The TBC was responsible for any infrastructure developments in the schools while TTC was responsible for ensuring that transport services were available to deliver students to the schools. Lastly but not least, the TET was responsible for the development of learning technologies and ensuring that all the schools in the project were supported in their efforts to integrate technology in teaching and learning contexts. Schools were to direct their requests to the relevant department in the Tatweer Educational Services Company. To ensure that T4edu department was effective and could reach out to the schools, the department set up 42 administrative units

across the country called the Tatweer Units (TU). Saeed explained that: 'the TU were in direct contact with the schools in their respective regions and were responsible for monitoring and implementing all the school development plans'.

The TP phase 2 was first implemented in one of the big cities in the country and was implemented in 30 secondary schools, 15 boys' only schools and 15 girls' only schools. The number of participating schools increased to 60 by the end of 2013 consisting of 30 boys' only schools and 30 girls' only schools. The mandate of the TU was to collect information from the schools and communicate with the T4edu. In a way, the TU monitored the education plans at school level. However, the TU had no authority to change the education plans, they acted as conduits linking schools with the T4edu department. At school level, there were some administrative structures that were put in place as discussed below.

The school head was responsible for appointing subject leaders called the First Teachers (FT) who were responsible for supervising and providing leadership in their respective subject teams. The selection of the FT was guided by criteria set up by the T4edu and this included previous work experience, subject knowledge and performance. The FT was meant to be one of the most experienced teachers in the subject area with a sound understanding of the subject knowledge and someone who achieves excellent results in their subject area. The FT's job would involve training other teachers in their teams and identifying the needs in their subject as well as to supervise and provide guidance aimed at enhancing practice. Most importantly, the FT would report their subject area needs to the school management.

A special committee called the Excellence Team was also an important part of the school level TP management system. This consisted of the school head, deputy head, teacher representatives from all subject areas, special needs learning coordinator, extra curriculum activity specialist, two members of the community who represent the private sector and someone with the responsibility of overseeing student matters and learning matters. As explained by one of the school heads, 'the Excellence Team's job is to investigate and deal with any issues related to the teaching and learning process, the teaching environment, the teachers' training, the improvement of the students' achievement, extra curriculum activities and health services'. The Excellence Team was responsible for communicating with the TU. They prepared and submitted school plan

reports to the TU. Any requests submitted to the TU would be looked at based on the guidelines of the TP provided by the T4edu department.

The schools were given freedom to identify their needs and were supported by the TP to achieve their goals. This was the major difference from the way the TP was implemented in the first phase where all ideas and activities were designed from the central office. According to Ahmed, one of the policy-makers in the Ministry of Education, 'the second phase of the TP helped schools to develop and improve the education environment. This is because the schools have been given the flexibility to make their plans under the supervision of the Tatweer Education Services Company'.

In the following section, I will focus on presenting the data from the different stakeholders who were interviewed about the TP implementation. The views of the stakeholders will be around the implementation of the TP in both phases, that is, phase 1 and 2.

5.3 Data from the policy-makers in the Ministry of Education

I sought to find out more information about the curriculum innovation project from the policy-makers as the project website did not contain all the detailed information about the project. I included 4 policy-makers in my study that I interviewed individually to gain an insight into the aims and objectives of the Tatweer project including information regarding how the project was implemented.

5.3.1 Policy-makers' views about the Tatweer Project

The Government, through the MoE wanted to bring about changes aimed at enhancing the quality of education not only in the public secondary schools but also in the primary and intermediate schools in the country. This led to the introduction of the TP in selected pilot secondary schools in the country. The policy-makers I spoke with reiterated the aims of the Tatweer project stating that the government wanted to bring about significant improvements across the education sector including the primary, intermediate and public secondary schools. According to Ahmed, 'TP is a Saudi project which aims to develop and invest in human capital'. The MoE realised that education played a pivotal role in the country's development agenda. There was, therefore an aspiration to modernise the country's education system. As indicated by one of the policy-makers, 'a vital role of TP is to integrate the technology in teaching and to provide teachers and school heads with

training opportunities' (Saeed). The focus was to ensure that students were prepared to function independently and to be able to contribute to their country's economic development. Shami elaborated that: 'the main thing is the change of learning philosophy. Students should research about knowledge and use critical thinking skills, be autonomous learners and develop communication and problem-solving skills'.

The primary objective of the TP was captured by Ahmed, who stated that 'one of the principal drivers of the TP was an improvement of education'. He added that: 'the TP was piloted in selected schools in order to assess its effectiveness in a small geographical area, if judged to be successful; the project would be expanded and implemented in a larger area'. It emerged that the initial plan was to implement the TP in 45% of all public secondary schools in the country within a period of two years from the start date that is from 2007. There was a feeling that the scaling-up of the project would be challenging given the cost involved. In line with this, Shami stated that: 'the government aimed to expand the TP all over the Kingdom; however, this plan would be inordinately expensive'. There was a feeling that a number of areas needed to be reformed in the education system and it was not enough to focus on the provision of technology alone.
I asked about how the pilot schools were selected. In response to my question, Ahmed highlighted that 'in phase 1, the TP was implemented in only 50 secondary schools. The schools were selected based on certain criteria such as location, the schools needed to be close to the TP's coordination centres in the city'. During this phase, the TP replaced the textbook and every student was given a laptop and access to internet facilities. This was a big change in the education system that was previously dominated by the use of textbooks as the only source of information for the students. Rhean, another policy-maker, indicated that students were very happy and were provided with opportunities to develop research skills.

The TP was firstly implemented in fifty public secondary schools in one of the big cities in Saudi Arabia to determine the extent to which the new innovation impacted on teachers' practice and students' learning experience. The plan was to evaluate the implementation of the TP in the pilot schools after the first phase, which was intended to cover a five-year period. The policy-makers emphasised that the public schools in Saudi Arabia were traditionally viewed as a 'place of education where the main aim was to teach students basic skills, for e.g. reading, writing and principles of the Islamic religion'. The TP aimed to change this superficial view of education that was prevalent in the

schools by improving the teaching and learning process through increasing the number of qualified teachers who would encourage independent learning using modern information technology. The provision of qualified teachers was one of the major aims of the TP as stated by Rhean: 'one of the principal drivers of TP was an investment in human capital'. The new curriculum required qualified teachers in order for it to be delivered effectively.

The TP involved use of modern information technology to support teaching and learning activities in the schools. This was stated categorically by one of the policy-makers I interviewed who said that: 'the main focus and aim of phase one was to enhance the quality of teaching and learning by using technology' (Ahmed). The schools under the TP became known as the Tatweer Smart Schools (TSS) because of the extent to which technology was used. All the participating schools were equipped with the latest information technology facilities.

One of the key features in the schools was the use of electronic books. Curriculum changes, for example, the introduction of electronic books were met with mixed views. For instance, some of the policy-makers I interviewed were positive about the use of electronic books while others were negative. Ahmed, for example, stated that electronic books were not appropriate citing that they 'isolate the students from the society and affect their social life. When students are browsing the electronic books, they might browse other websites which could affect their personality'. It appears that there was fear among some of the leading policy-makers that exposing students to internet resources would create problems as students could easily be influenced by other external cultures. The impact of religious values and beliefs was evident in this case. Additionally, there was a feeling that the cost of equipping all schools with information technologies such as those in the smart schools was prohibitive. However, some of the policy-makers were positive about use of information technology and did not think that the cost would be a barrier. For instance, Saeed, one of the TP district supervisors thought that the TP is very feasible and relatively inexpensive for Saudi Arabia. It appears to me that, the anticipated benefits of the TP were stronger and as a result, nothing else could derail or delay plans for its implementation. This was evident from the way each policy-maker talked with enthusiasm and optimism about the TP.

5.3.2 Curriculum innovation issues raised by policy-makers

According to the policy-makers I interviewed, the implementation of the TP was affected by a number of factors. One of the factors was the teacher workload. As argued by Rhean, 'teacher workload was a barrier in the implementation of the programme'. Apparently, during phase two when the administrative structures of the TP changed, some of the teachers were appointed to supervise their colleagues within the school. However, this was an additional responsibility to the other existing tasks they were expected to undertake in their normal duties as teachers. This compromised the effectiveness of the supervision process.

In addition to this, no evaluation was conducted to identify the problems and challenges that were being faced by the different stakeholders during the implementation of the TP. The views shared by the policy-makers are well captured by Ahmed who stated the following: 'nobody, neither an educational institution nor the Ministry of Education has assessed or evaluated the project at all. To make a judgement about whether the project has achieved its goals or not is not an easy matter without conducting empirical research to investigate the project in its real-life context'. The absence of an evaluation of the TP underscores the importance of my study.

The other problem cited by the policy-makers was the lack of training for the supervisors. Commenting on the lack of training, Saeed said: 'unfortunately, the Tatweer Company didn't train us, and we have a shortage in the number of supervisors in the unit; we are just five due to lack of motivation and unattractive working environment'. It appears that apart from lack of training to the existing staff, the company did not have the adequate number of staff to conduct supervision in the schools. However, some efforts were made to provide training although this was inadequate. For instance, a TP decision-maker stressed that regarding the English language teaching, TP implemented two programmes; the first programme was in collaboration with the Teachers' College in Columbia University, which is a leading university in the field of English language teaching and learning. Rhean said, 'a member of the Columbia University teaching staff visited Saudi Arabia and trained about 150 Master trainers in the teaching of reading and writing skills. The programme lasted for one year. Staff from Columbia University visited Saudi Arabia about four times, and every visit lasted at least one week long to train those Master Trainers. The 150 teachers who received training came from 16 cities in Saudi Arabia

and then went back to their cities to train up to 1000 teachers in total. The second programme focused on training teachers about the new curriculum. Three book-publishing companies were invited to train up to 750 teachers and supervisors who would then become Master Trainers for the effective teaching and learning of the English language. This approach to training teachers across the country only lasted for one year, which means that a lot more teachers remained without receiving training.

Communication was not effective among the different departments of the Tatweer Company. There were conflicts between the staff in the TU and those in the Tatweer Company's head office. The TU staff demanded to manage their tasks locally and not to be controlled by the central office, but this was not given to them. In addition, Saeed reported that there was struggle for power between the TU staff and the other MoE regional offices staff who were also responsible for monitoring schools. This generated discomfort and caused a number of staff to leave their jobs in the TU. The centralisation of power was cited as one of the big challenges faced during the implementation of the TP in schools. Saeed stated that 'the challenge is the centralisation of the administration for the project and the poor communication between the Tatweer Company staff and the schools. Rhean says that: 'I think the TP Company is (sic) working very hard, but we do not communicate in a good way with the schools'.

The policy-makers also highlighted that there was no appetite to promote and encourage the TP among many people in the society. This was well articulated by Ahmed who said that: 'community involvement is lacking in terms of assisting in promoting and encouraging the project'. According to Ahmed, teachers, students, parents, school heads and administrators 'should work shoulder to shoulder with a clear vision and good relationship to support the national project'. The same view was shared by Shami who stated that: 'all colleagues from schools should participate in similar projects of curriculum change for this is good for the future of the country'. This can be an overstatement as people have different views on what should be the country's future.

The policy-makers also cited resistance to change as one of the barriers in the implementation of the TP. Ahmed commented that: 'change always takes a long time and we have to be patient with that. There was need to educate and prepare people for the TP'. People in Saudi Arabia, just like people elsewhere in the world, will not accept change easily. In fact, a change such as the introduction of the TP was a big ask to the

Saudi people, as this was unprecedented. Rhean further buttressed this view by stating that: 'there is an obvious resistance from the teachers and it is important to deal with that'. The policy-makers also cited some challenges that were faced during the implementation of the TP. One of the biggest challenges is the policy of changing the school leaders on a regular basis. Saeed elaborated that: 'the Ministry of Education does not usually keep school leaders in their positions for a long time'. A change of leadership can impact negatively on the project implementation. This will be discussed in more detail in the next chapter. Apart from this, it was also indicated that teachers already had heavy workloads and the introduction of TP was inevitably seen as an extra-burden by some of the teachers. Despite the benefits of the innovation, if teachers do not get any incentives, it is hard to ensure their active participation in the project. This was expressed by Rhean: 'the other concern is that both teachers and supervisors feel disappointed as they provide too much work and get less payment'.

5.3.3 The Curriculum innovation process

The implementation of the TP was considered to be a result of the government's continued effort to develop the school curriculum to respond to the scientific and technological advancements in society. While most of the participants in my study regarded the curriculum as equivalent to a textbook, I noticed that the design of the TP did not consider the curriculum as a book only. Curriculum in TP documents is defined broadly and is not limited to books only. Saeed gave a comprehensive definition of curriculum stating that: 'the curriculum from my perspective means the following: the school textbooks and its contents, teaching methods used, materials provided, teachers' training courses and extra-curriculum activities'. The MoE had to provide leadership in the implementation of the curriculum innovation. However, as evidenced by the failure of the TP phase 1 to take root, it can be seen that curriculum change is not a linear process. A number of factors come into play. As observed by the policy-makers during interviews, one important lesson that can be drawn from the experience of TP phase 1 is the need to be flexible to change and adapt to the educational environment. The following section presents the data generated from interviews with the school heads.

5.4 Data from School heads

My study involved working with six school heads who participated in the implementation of the TP phase 1 and phase 2. I interviewed the school heads from each school to gain

insight into their individual experience of the TP. During the interviews, the school heads were asked to articulate their experience of the TP and their views are discussed in the following section.

5.4.1 School heads' experiences

I asked the school heads to reflect on a number of aspects of the TP and these will be discussed under the specific sub-themes in the following paragraphs. *How schools were selected to participate in the Tatweer Project*

The school heads reiterated what was said by the policy-makers regarding the selection of pilot schools. Schools with good infrastructure and facilities were given first priority to participate in the project. As one of the school heads Khaddar said: 'the TP was implemented in this school because the school had good facilities already, such as libraries and science laboratories. The school also had well qualified teachers'. The TP management team had no time to start building and developing basic infrastructure; this is why the MoE identified schools that had the suitable facilities. It seemed to me that there was not enough time to plan the implementation of the TP. Commenting on the way the TP was introduced, Khaddar stated that: 'the TP implementation was a hurried process by the policy-makers in the Ministry of Education'. Most of the schools in the country were not compatible with the requirements for the successful implementation of the TP. In general, the school heads agreed that the original plan of the TP was good and was welcomed among the school communities. There was excitement on the prospect of integrating technology in the education system and the possibility of improving the provision of education in the country.

Once the TP team had a list of schools they felt would qualify to be the pioneers they visited each school to discuss their willingness and preparedness to take part in the project. This was clarified by one of the school heads, Mahmood, who stated that: 'we first knew about Tatweer when our school was selected as one of the TP schools and some of the Tatweer staff visited our school'. Once the school agreed to participate in the project, they were given some basic information about the project. The TP team from the MoE marketed the project promising that schools would be comparable to some of the best schools in the world once they chose to implement the TP. This approach persuaded school heads and their staff to join in the project without any hesitation. According to Fatima, 'the TP team explained the project as an amazing programme and our school would be similar to the modern schools in developed countries'. Everything was very

appealing in the first instance; however, on reflection, the school heads highlighted that they did not feel adequately prepared to implement the TP. The views of the school heads were well articulated by Fatima when she said: 'we did not have enough information; we didn't have a clear picture of what the TP would look like'. It emerged that the schools jumped into the project without a good understanding of how the whole project would unfold once it started. Clearly, this might be one of the reasons why in the later stages, the project failed to get institutionalised in some of the schools. However, despite the cited shortcomings in the way the TP was introduced, I noticed that the school heads appreciated a number of benefits that were brought about by the project.

School heads' perceptions of the TP

The implementation of the TP provided opportunities for the training of school heads and teachers. The feeling among the school heads was well reflected in the comments made by one of the school heads, Fatimah when she said, 'the TP was great, it provided a lot of support for our school in terms of training programmes for teachers and head teachers. There were so many meetings with officials from the Ministry of Education'. Abid, one of the school heads, added that: 'the smart technology was very helpful'. The schools were happy to be on the cutting edge of technology and to have a curriculum comparable to what was going on elsewhere across the globe. However, it emerged that after a few years, the TP started to experience problems with the maintenance of the smart technology. It was revealed by the school heads that during the first phase of the TP, no support system was put in place to look after the new technologies in schools. This might be one of the reasons why TP phase 1 failed to get institutionalised.

The school heads, however, felt that the TP phase 1 was rigid in the way it was being implemented. The schools could not focus on their own needs but had to wait for instructions and guidelines from a central office. This was, however, rectified in the phase 2 of the project where each school was given some control in terms of identifying needs and areas for further development. The school heads highlighted that there was lack of supervision from the MoE during the phase 1 of the TP. This led to the collapse of the project before reaching its maturation point. The MoE then introduced the second phase of the project which brought in a number of changes including administrative and logistical changes. I found out that the school heads welcomed the changes made to the TP and cited that it was helpful for the schools to be given their own space and flexibility to identify their own needs and address them with the support of the TP Company. During

the phase 2 of the TP, the school heads felt more empowered to bring about the changes they needed in their respective schools. They appreciated the opportunity to develop their own school plan and to work with the TU to address their needs. While talking to the school heads, I could appreciate the tension that existed between them and the TP team from the MoE during the first phase of the TP. It was clear that there were some power struggles between school heads and the TP team and apparently, it was not easy for schools to take on board everything prescribed by the TP team. In the next chapter I will discuss in more detail the problems of externally driven curriculum innovations versus school-based innovations.

The school heads reflected on the impact of the TP on teachers' teaching practice. There was a feeling that the TP was helping to change teaching practice in the schools. One of the school heads, Mahmood, commented that: 'you can see clearly the difference at our school. I noticed that the way teachers think has completely changed. But there are a few teachers who still hold on to the traditional way of thinking'. It can be gleaned that the TP was able to help some of the teachers to develop their professional practice. Khaddr added that: 'teaching methods and strategies have changed. In the past, the teachers used to deliver and explain the lesson to the students and the students were only receivers of the information. Now, everything has changed, we are now talking about active learning'. This is a positive contribution of the curriculum innovation. It appears that the training and exposure to the TP might have helped teachers to change their beliefs about teaching. As highlighted earlier, some of the teachers continued to use traditional approaches to teaching. This might be a result of inadequate training under the TP or mere resistance to change that is usually one of the problems associated with curriculum innovations. Mahmood stated that: 'there is a willingness to change. However, some teachers still are not happy with the idea'. Fatimah added that: 'In the beginning, there was some resistance from some teachers who felt that TP is extra work without benefit for staff'. In this case, lack of incentives for teachers might have led some to feel negative about the whole project. The issue of lack of training opportunities was reiterated by the school heads during the interviews and this will be discussed in the next chapter.

I found out that the school heads were quite positive about the use of new technologies in the schools to enhance students' learning experience. Unlike in the past, some of the teachers embraced the use of new technologies in the classrooms. Commenting on the use of new technologies, Khaddr said: 'some teachers are delivering their lessons

electronically by downloading materials on the computers and then using PowerPoints and Smart boards'. This was seen as one of the major benefits of the TP. Attih added that: 'all classrooms are provided with computers'. In the same vein, Nader talked about how teachers in his school were now making use of the internet services: 'the school website includes facilities for accessing recorded lessons which enables students to repeat lessons whenever they want'. Obviously, the notion of anytime access has to be looked at critically as this would depend on the availability of internet services. I think in this case the school head was referring to the facilities available in the school. There were, however, some concerns regarding the lack of technical support in the schools. This presented challenges with the use of some of the technologies: some teachers did not have a chance to learn how to harness the available technologies and there was lack of expertise to repair broken technologies. A combination of lack of technical support and lack of motivation explains why some teachers could not make use of the technologies in their teaching. As indicated by Attih: 'actually there were some good trainers but unfortunately there was no motivation'. The TU adopted the cascade model which involved training a few teachers from each school who were then meant to go back and train others.

The availability of funding from the TP was a big step forward for the schools as they felt they could now focus on changing the school learning environment and help students to achieve better results. Under the TP phase 2, the school heads had the responsibility to conduct their own SWOT analysis to identify areas where they needed support; Nader, one of the school heads said that: 'the plan was for the schools to self-evaluate our work'. In the same vein, Mahmood, another school head stated that the TP seemed to be much more organised with all teachers being given a certain role to play according to their experience and expertise'. Similarly, Fatimah, another school head said that: 'TP gives the teacher a kind of freedom to create their school plans'. According to Mahmood, 'previously, school plans were only designed by school heads. However, nowadays, about 25 teachers usually participate in putting together the school plan'. There was increased teacher participation in the running of the schools' development programmes. The same view was echoed by Fatimah who said: 'the good thing is the TP minimises the centralisation in the school. In the past, the school administration was doing the planning alone. Teachers were not participants in the designing of the school plan. Now we are doing our school plan as teamwork'. The school heads were happy as they could now evaluate their own performance through the Excellence Team in the school. Excellence teams were viewed positively, and school heads appreciated their role stating that: 'they

provide the school with guidance for school development'. The school heads stated that the ability to self-evaluate all aspects of their schools meant they could identify their schools' weakness and strength and work on these accordingly to bring about positive changes. This was also viewed as an opportunity to foster team working spirit among colleagues in the schools. Mahmood said that: 'we started to work as a team in order to make our plans, and to discuss our weaknesses and there is less centralisation in school administration'. It seemed to me that school heads were not happy with the centralisation of management responsibilities that characterised the implementation of the TP in phase1.

In general, the school heads were positive about the way the TP was being implemented in phase 2; in particular, they enjoyed the fact that they were in charge of their own school's development. Commenting on this, Khaddar said: 'the Excellence Team is now the Quality team. Members of this team are in charge of making developmental plans for our school'. Similarly, Attih stated that: 'our Excellence Team provides helpful plans. They provide useful guidance and advice to all teachers in the school'. However, they faced the problem of increased workload among their teaching staff. For instance, the appointment of some teachers as subject leaders (First Teachers) meant that these teachers would assume increased responsibilities over and above their other routine tasks. Fatimah explained the problem they faced with increased workload for their teachers as follows: 'For the First Teacher, we try to reduce his/her load, but the Education Administration is refusing that'. It appears to me that the MoE did not make provision for the schools to recruit more staff to compensate for increased responsibilities associated with the implementation of the TP in phase 2. Commenting on increased workload, Khaddar, one of the school heads said, 'the teaching staff are complaining that there was extra work, but they had no pay rise'. Lack of incentives could have been a cause for lack of appetite for some of the teachers to be fully committed to the implementation of the TP. The following section focuses on the school heads' views regarding the curriculum changes made under the TP.

5.4.2 Curriculum innovation issues faced by the school heads

Whenever a curriculum innovation is implemented there are bound to be some factors that influence the process. Bearing this in mind, I asked the school heads to share the problems and challenges they faced during the introduction and implementation of the TP in their schools.

The school heads reflected on the issues that they had to deal with during the implementation of the TP. One of the questions I asked them was their understanding of what is meant by curriculum. I noticed that most of the school heads interpreted curriculum as synonymous to textbooks. They had a very limited view of what a curriculum is. For instance, Mahmood asserted that 'the curriculum from my perspective means the school textbooks and their contents'. Similarly, Nader used the term curriculum to refer to textbooks when he said: 'the school curriculum in all subjects are designed by subject specialists and scholars according to different academic fields'. This might have created some discomfort for them when the TP was introduced. The TP which they understood to be a curriculum reform initiative was not focusing on changing the textbooks only but was seeking to bring about wholesale changes to the school curriculum including teaching and learning methods, extracurricular activities as well as the use of new technologies and teacher training. The school heads and others including school teachers had a limited view of curriculum because they had been working within an education system that focused on delivering content from textbooks only to their students. The TP was a radical change programme that sought to broaden the definition of the school curriculum and to address all the issues relevant to the success of students in life as a whole. According to Nader, one of the school heads, 'the TP helped to change the school heads' mindsets from thinking that the curriculum is mainly textbooks to embracing the view that curriculum includes the textbooks, the learning environment and the way teachers deliver the lessons including the strategies they use to deal with the students'. The TP had a complex view of the curriculum by integrating technology with the textbook and providing teachers with more flexibility in teaching where they can make use of the internet and smart boards in classrooms. The TP encouraged the use of activities that encouraged students to be independent and to think creatively. All these changes were appreciated by the school heads but were also met with some challenges.

The changes that were brought about by the implementation of the TP required the teachers and the school heads to be trained to ensure they could deliver the new curriculum effectively. During interviews with the school heads it seemed to me that the TP had actually provided training opportunities for the school heads. Training opportunities were provided both locally and abroad. There was an overwhelming consensus among the school heads that the TP had provided them with excellent professional development opportunities. The views of all the school heads were well articulated by Fatimah's response which highlighted that: 'one of the positive aspects of the TP is that it provided training opportunities for the head teachers'. Both Fatimah and

other school heads felt that this training was useful and effective because they were equipped with knowledge and skills to provide the needed leadership in the implementation of the new curriculum under the TP. School heads attended workshops held in Saudi Arabia and they also visited outside countries to learn from centres of good practice. Commenting on the training opportunities, Nader indicated that a group of school heads had visited Singapore to have a hands-on experience of how technology can be integrated in the education system to enhance the quality of student learning experience. Singapore is one of the countries with an outstanding education system in the world. The decision to visit this country was helpful as the school heads commented that they learnt a lot in terms of understanding how to implement a comprehensive curriculum change initiative such as the TP.

Despite the provision of training opportunities to the school heads, it does appear to me that the teachers in schools did not have similar training opportunities. This emerged during my interviews with school heads who indicated that one of the challenges they faced in the implementation of the TP was the lack of adequate training opportunities for the teachers. This was highlighted as one of the barriers in the implementation of the project. Clearly, if a new curriculum has to be delivered effectively, it is significantly important for the teachers who can be referred to as the "assault troops" to be adequately prepared. Usually, if the teachers are not clear about the demands of the new curriculum, it is very easy for them to slide back and use the traditional methods.

It also appeared that the communication system between the schools and the TP management was seen as too bureaucratic. There are times when schools felt that they did not have enough information regarding the implementation of the TP. For instance, one of the school heads, Attih said: 'the problem is that in the beginning of the project implementation in our school, we did not have enough information or a clear picture about the TP'. Possibly, this explains why the implementation of the TP was a failure in the first phase. In the second phase, new administrative structures were put in place, for instance, the TU were working in direct contact with the schools. However, similarly to the policy-makers' views, the school heads still considered that the communication system was too bureaucratic. It was not easy for the schools to get quick solutions from the central office as they had to wait for the TU to communicate with the central office in the T4edu department. The feelings of the school heads were well captured by Attih who posited that: 'there are no direct connections between the Tatweer project supervision

office and the education administration office. There is no direct link between them'. Clearly, there has to be smooth communication if an innovation is to be implemented effectively with both the implementers and the receivers having opportunities to discuss issues as they arise.

5.4.3 The curriculum change process

The school heads commented positively on the other curriculum change initiatives that were being developed alongside the implementation of the TP. Although the TP did not design textbooks, the MoE came up with another initiative which focused on textbook design. According to the school heads, the books were helpful as they contained activities that supported creativity and the development of independent learning skills among the students. In a way, this was very much aligned to the overall aims of the TP that sought to change the traditional education system that promoted dependency and rote learning.
The TP was viewed positively as it provided funding for the development of extracurricular activities. Schools were able to introduce sporting activities and other clubs such as the health clubs which provided opportunities for students to diversify their learning experiences. Mahmood explained that: 'we have after school clubs as part of extra-curriculum activities which belong to TP. The education administration controls these clubs, but the funding comes from TP'. Schools made use of the available funds to invest in sporting activities. Talking about his school, Khadder highlighted that: 'we have many sport halls. There are many activities in it such as karate courses throughout the year and the trainers are from America'. I figured out that all the school heads only talked about using the funds for sporting activities. There was a feeling that although funds were provided, they were not enough to cater for all the school needs.

In line with the government's aim to develop a curriculum that is aligned to the scientific and technological advancements in the world, the school heads felt that the TP was helpful. For instance, one school head said, 'in the phase 1, the TP replaced the textbooks with computers and internet facilities for each student. This helped students to develop research skills and to expand their knowledge base'. There was a feeling among the school heads that the TP had actually made a significant contribution to the overall development of the school curriculum despite the challenges faced such as lack of training for teachers, and lack of maintenance of the smart technologies, among other things.

5.5 Data from teachers

A total of ten teachers from the five-participating public secondary schools took part in my study. As indicated earlier, I was interested to establish the hands-on experience of the teachers who were involved when the TP was introduced in the schools. I could not talk to all the teachers, however, I felt that the small sample of ten teachers would enable me to gain important insights into the way the TP impacted on the teachers' practice. As a result, I conducted semi-structured interviews and focus-group discussions to elicit the individual teachers' views and the overall views of the teachers as a group, respectively.

5.5.1 Teachers' experiences

Bearing in mind that teachers are in the front line when it comes to the implementation of curriculum innovations in the schools, I sought to understand how teachers viewed the TP. It emerged that the teachers I interviewed had mixed views about the TP. Some of the teachers were positive about the experience while others felt that the project was not good enough. The teachers' views are discussed below under the identified sub-themes.

Communication

Similarly, to issues raised by the school heads, it appears that the TP was not communicated effectively to all the teachers right from the onset. Some of the teachers I interviewed who were working in the schools where the TP was implemented commented that they did not have a good grasp of the project. For instance, one of the teachers called Fahd had this to say, 'I was just told that all students in this school would be given a laptop'. This appears to show problems in the way the TP was introduced in the schools. It seems to me that teachers were not given the full details of the project. If the teachers did not have full details of the project, it could be difficult for them to implement the project successfully. On the contrary, it is possible that some of the teachers who were less enthusiastic about the innovation did not seek to understand more details about the project. I also came across teachers in the Tatweer schools I worked with who, indicated that they did not know anything about the TP. This can be an indication of how the project ended in some of the schools where, no one is talking about it anymore. For the new staff it is possible that they do not get to know about the project at all. This was highlighted by a number of teachers such as Rami who said: 'I have not met Tatweer people but there might be some people who are in the school who are part of the project'. In the same vein, Tareq added that: 'I can say that we have not seen any implementation of the TP objectives. There is no single hint of something associated with the TP in our school'.

Some teachers indicated that they only got to know about the TP from the media sources. For instance, Salem commented that: 'the media was talking about it [the TP] but no one came to talk to us about it'. However, I observed that there was variation among the schools, teachers from one of the participating schools indicated that they were informed about the TP and those teachers who were unhappy with the project had an option to leave the school. Tahir confirmed this: 'Our school was chosen to be one of the schools to implement TP. All of a sudden, they introduced TP and they told us if you do not want TP, we could transfer you to another school. Some teachers left the school'. Apparently, those who left were not prepared to take up the extra responsibilities brought up by the TP as posited by Salem: 'You know the other teachers had taken the summer vacation and we did not take our vacation as we were told that we should take a training course'. It was not clear to me why the TP team failed to communicate all the key messages to teachers in all the participating schools. What I could discern was that during the phase 2 of the TP the schools had some autonomy, so they could choose what areas they wanted to focus on under the TP. It is possible that the progress of the TP in each school was dependent on the school leadership and their capacity to communicate with the teachers and students.

5.5.2 Teachers' overall reaction to the TP

As indicated earlier, not all teachers were negative about the TP. I interviewed some teachers who were positive about the TP. A good example was Haytham who stated that: 'the TP was well organised and provided an opportunity for some groups to discuss the curriculum'. I noticed that teachers had different experiences as I travelled from one school to the other. Interestingly, teachers from the same school also had different experiences/views about the TP. This might be due to the different levels of enthusiasm and interest in the project among the teachers. Alternatively, it might just be the case of poor communication when the innovation was introduced in the schools. One of the teachers, Salem, talked about the key role played by teachers stating that: 'one of the main factors for the success or failure of the TP is the teacher'. From this, I could glean that the teachers' attitude, that is, preparedness or lack of it, determined the extent to which the TP was being implemented in the schools. It also emerged that some teachers were negative about the TP because they lacked training in the use of the technologies and other facilities. Tahir argued that: 'some teachers were afraid of Tatweer project because they felt that they were not equipped to work within the TP environment'. The following section highlights what teachers revealed regarding the training provided under the TP.

Training

Some of the teachers highlighted that they did not have a full understanding of the way the TP was to be implemented because no training was provided to them prior to the introduction of the innovation. During phase 1, one of the teachers called Tamim commented that: 'some of the teachers were confused about their roles and responsibilities within the smart schools'. Given that no training was provided to the teachers, they did not even understand how to use the new technological facilities. Tamim further said that: 'some teachers were disappointed and lacked motivation'. Some of the teachers reported that they did not use the technologies at all. As a result, one of the teachers said: 'I see no difference between teachers who work for the TP and those who do not'. It is vitally important to ensure that teachers, who are in the front line in the implementation phase of the project, should be provided with adequate training. Commenting on the situation obtaining in schools, Rami said that: 'we did not have enough training to implement such a project. We don't have a clear plan for such a project'. It appears that the TP ideas were not afforded a good chance to be implemented in practice. One of the distinctive features of the TP was the use of new technologies in teaching and learning. Obviously, for teachers to be able to use the new technologies confidently they need adequate training and on-going technical support. Salem commented that: 'nobody explained anything to us about the smart boards. We learned about the smart boards by ourselves and the problem with the smart boards is that they have lots of faults and problems'. It appears that the TP Company did not continue to provide support to enable teachers to continue to use the technologies and other facilities that came along with the TP. This was made clear by Salem when he said: 'the teachers need to improve themselves in order to carry out their duties effectively. This is why we blame the company, in the beginning there was a lot of support but in the end, this ceased to exist'. The lack of training was echoed by Rami who stated that: 'I think the teachers were not prepared for TP. In addition, the administrators were not ready for TP because they lacked training'. Fred added that: 'when the TP started there was very little training. We still use the traditional teaching which includes memorisation'.

Some teachers mentioned that they had some training although it was made clear that the training was inadequate. Tahir voiced out the concerns of some of the teachers regarding the quality of the training they had received. He stated that: 'I attended only one training programme and I was so disappointed. The trainer published a book and began to work as one of the trainers for staff but with no experience'. The teachers expected the TP to

be accompanied by more training sessions led by experienced trainers. This was made clear by Tareq who asserted the following: 'I think experienced and skilful teachers should provide training courses especially those who know how to deal with students regardless of their attitude and educational level'. Clearly, if training is to be meaningful, it has to be delivered by knowledgeable and well experienced trainers and this has to be provided consistently.

Management of the TP

It seems to me that teachers were not very clear about the management of the TP during the first phase. The majority of the teachers I interviewed indicated that they did not know who was running the TP and who was responsible for the TP within their local schools as well as within the MoE. This appears to show that not enough time was dedicated to educating the relevant stakeholders such as teachers about the project. The lack of clarity about the project militated against the longevity of the project during phase 1. One of the teachers expressed the feeling among most of the teachers when he said, 'TP in phase 1 was not useful for schools. This phase was far away from the school's needs and it focused on technology more than any other issue'. Clearly, for an innovation to be a success, the relevant stakeholders should be engaged in a meaningful way in all the discourses prior and during its implementation. If key stakeholders like the teachers are not engaged fully in the preparations it becomes difficult for them to support the innovation no matter how good, it might be.

The schools needed change, but it appears that during the phase 1 the change was managed from the top, that is, from the MoE without involving the teachers fully. This was, however, rectified in the second phase of TP implementation. The teachers felt that in the second phase, the schools owned their development plan and the TP management was there to give support, in particular, funding and other logistics including training opportunities. However, they were not happy because they ended up with extra responsibility but with no incentives. The teachers celebrated the fact that schools now had some autonomy to design their own development plan. At school level, teachers participated in the administrative structures, some as subject leaders (First Teacher) and some being part of the Excellence Team. The additional tasks were not accompanied by any pay rise and teachers felt disappointed. As reported by one of the teachers, Khalil, 'imagine teachers teaching 24 lessons per week and TP asks them to do more extra work.

It is not easy at all'. The need for incentives cannot be over-emphasised if any innovation is to succeed.

5.5.3 Curriculum innovation issues faced by the teachers

The study established that teachers faced various challenges as they implemented the TP. Some of the challenges faced as a result of the introduction of a new curriculum are discussed below.

Teacher training and the delivery of the new curriculum

The teachers reiterated that lack of training/inadequate training hampered the effective implementation of the TP. Training is key in terms of empowering the teachers with knowledge and skills to deliver the new curriculum. Teachers commented that during phase 1 they received some training sessions that focused on use of technology in education. Salem, one of the teachers I interviewed said that: 'in the beginning of TP implementation there were many training courses. This made us realise that a big burden has been put on our shoulders'. Therefore, although training was provided, not all teachers viewed this positively. As described by Salem, to some teachers, this was seen as a burden as they could not understand why they had to bear with extra responsibility with no incentives offered. As the project continued, it appears that the training sessions ceased. So, some teachers felt that there was no adequate technical support to help them understand how to implement the new curriculum using smart technologies. Commenting on the inadequacy of the training opportunities, Tamim, one of the school teachers said that: 'one person from the TP visited our school and explained the advantages and disadvantages of using smart boards in schools. He also answered many questions we asked regarding the use of technology in education'. If such visits were made irregularly not many teachers would benefit. Adequate pedagogical and technical support is crucial if teachers are to grasp the innovation and implement it successfully.

In the second phase of TP implementation, lack of adequate training remained a major challenge for the teachers. A considerable majority of teachers were unhappy about the way training was managed. According to the teachers, the Tatweer Company offered training to a few teachers who were then expected to train others in the schools, in other words, a Train the Trainer model was used. The Train the Trainer model did not appear to go down well with all the teachers as indicated by Tareq: 'their training programmes were not very effective'. In the same vein, another teacher, Salem, said: 'teachers do not

have the right tools to implement such a project'. The lack of appropriate training was cited in all the interviews I conducted with the teachers and this was also confirmed in interviews with school heads.

Technology and technology use

Lastly but not least, some teachers felt insecure with the idea of using technology, and hence resisted the implementation of the TP. This was clarified by Salem who stated that: 'some teachers were afraid of the TP because they thought that they were not equipped to use the relevant facilities and lacked experience or training to deal with the new technology'. Salem further added that: 'TP faced some obstacles. Some problems were possible to overcome during the planning stage such as teacher training and building a good relationship with the TP staff to reduce the resistance factor'. However, in Saudi Arabia's education system, the lack of harmony between the educational organisations remain the biggest challenge for any new initiative. It was clear that from the teachers' perspective, technology was synonymous to the use of machinery. In my conversations with the teachers, no one linked the use of technology to the pedagogical processes. Technology was viewed as the laptops given to students, the electronic books that were introduced by the TP, use of smart boards and overhead projectors and access to the internet. It appears that these hardware, digital media and software were not introduced in schools in a way that teachers could easily understand their important role in transforming teaching and learning transactions in classrooms and beyond the classrooms. The teachers' conceptualisation of technology and how this affected the integration of technology in teaching and learning contexts will be discussed in the next chapter.

Apart from lack of training, as discussed earlier, use of technologies was met with resistance due to religious and cultural values and beliefs among the teaching staff. Salem stated that: 'using technology is not a very good way of educating students. There is a cultural threat that students may use the technology inappropriately'. This portrays one of the challenges faced by the teachers in the implementation of the curriculum innovation project. While they appreciated the value of technology in education, it also created a dilemma for them, as they could not always reconcile the technology with their religious belief system. To what extent was the innovation sensitive to the people's cultural heritage? This might explain why some teachers might have been skeptical about engaging fully with the innovation. It is possible that the first phase of TP implementation

failed because of placing emphasis on the use of technology which was viewed negatively by other people in the society.

5.5.4 Other important issues raised by teachers

Leadership

From what teachers were saying during interviews, it appears that the implementation of the TP was affected by lack of leadership. For instance, in the first phase, it was not clear to the teachers who exactly were responsible for coordinating TP activities in the schools and within the MoE. Without clearly defined leadership structures in the first phase of implementation of the innovation, it was difficult to support and motivate users to embrace the change. The school heads were not equipped enough to be able to champion the implementation of the innovation. The second phase of the TP was characterised with some administrative changes with schools being given a big responsibility of identifying and addressing their own needs. Teachers were happy that they were now in control of the changes in schools but still complained about lack of incentives to carry out the additional responsibilities. It also emerged from the interviews that the MoE moved school heads from their schools on a regular basis. This also affected the stability and continuity of programmes and policies in schools. The impact of leadership on the implementation of a curriculum innovation will be discussed further in the next chapter.

Teaching practice

One of the goals of the TP was to improve the teaching practice in schools by encouraging teachers to embrace and make use of innovative approaches. In this regard, I asked the teachers to share their experiences and views about what might have been the impact of the TP on their teaching practice. Some teachers spoke highly about the availability of new technologies in their classrooms which meant that they could trial new approaches to teaching. For instance, one of the teachers whose views represented most of those who were positive about the TP said: 'all classrooms have computers and smart boards. I can save any work on the smart board and it is easy to get back at any time. The students can also write and draw on the smart board' (Tamim). It was clear from the teacher's perspective that technology had actually brought in a new dimension in the teaching and learning processes; in particular, there was evidence of excitement about the opportunities presented by the use of new technologies to both the teachers and the students. In terms of teaching, those teachers who embraced the use of new technologies welcomed the opportunities for students to participate actively in their own learning. However, another

group of teachers did not seem to perceive any benefits of the TP in their teaching practice. Salim stated that: 'there is no difference among teachers who work under TP and teachers who do not'. Some teachers felt this was a burden as they were expected to assume additional responsibilities in the school. Someone added that: 'there is no creative teaching, the teacher is still the main source of information' (Salem). However, despite this, there was a feeling among the teachers that students were provided with more opportunities to participate in their learning. According to Rami: 'we now get a lot of questions from students; this is the proper teaching where students have their own point of views discussed'. From my conversations with teachers, it was clear that the majority of them were positive and appreciated the value of TP in their practice. Those who were negative appear to have failed to embrace the technology and the need to put in extra effort to manage the extra responsibilities brought about by the TP.

Teachers' attitude

From the interviews held with teachers, I managed to observe that some of the teachers were negative about the project. It is possible that this was partly a result of the project being externally-driven and not an idea that originated from the schools. In the second phase of the TP, schools were given some autonomy; however, I noted that some teachers still treated their involvement in the TP with contempt. According to Salem, 'some teachers were afraid of the TP because they thought they were not equipped with the required skills and knowledge'. The issue of training will be discussed in more detail separately; however, it was shown that the fear and the lack of confidence with the TP was a result of the lack of adequate training.

The TP Company was very enthusiastic about the project but one of the teachers highlighted one major setback: 'some of the teachers did not cooperate fully with company's vision'. Right from the onset of the project, it was important for the TP Company to ensure that teachers are fully involved with the project through sharing of information and through providing training. I think if this was done, the teachers could have been better placed to engage with the project and implement it to the best of their ability.

Closely linked to the negative attitude towards the project is the idea of the sense of ownership of the project. Just like other innovations, it is difficult to achieve success when the key stakeholders like teachers are not engaged fully with the initiative. It must be

noted that despite some negativity among some of the teachers, some teachers reported satisfaction on the fact that the TP had brought in different stakeholders in education together. For example, Haytham commented that: 'Tatweer has allowed participation of different parties with the teacher, not like before when the teacher used to be responsible about the curriculum and everything in the classes. There was a feeling that teachers cherished the opportunity to share experiences with other stakeholders whom they had never interacted with before. This new experience in their teaching practice must have been a significant occurrence for them as they could get advice and resolve problems with other professionals. However, there were some challenges faced during the implementation of TP as discussed in the next section.

5.5.5 Implementation challenges

The implementation of the TP was faced with some challenges including large class size and a large number of students with low academic achievement. The teachers commented that the TP placed emphasis on the use of collaborative learning approaches; however, this was not an easy task for them given the large class sizes. One of the teachers expressed the view held by a considerable majority of the teachers when he said: 'collaborative learning and teaching is great, but it cannot be used with 35 students in a single small room' (Tareq). Similarly, Rami said that: 'there are sometimes more than thirty students in the same classroom and, yet the teaching materials are designed to be used with only half this number'. It can be seen that the available facilities such as the classrooms were designed to support the use of the approaches advocated by the TP. Teachers also highlighted that the limited resources made it difficult for them to embrace the collaborative learning approaches and ended up making use of traditional methods to learning such as memorisation. It is true that for any meaningful success in the use of innovative teaching approaches, the learning environments should be redesigned so that they support the innovation at hand. It appears that the TP did not involve the redesigning of the classrooms and as a result, efforts to bring about a change in the pedagogical practices were in vain.

The other challenge put forward by the teachers was the lack of academic competence on the part of the students. Tareq stated that the majority of students in the schools were below average: 'you know in many schools there are only three or four good students and most of them are weak'. The teachers reported that sometimes they are subjected to stress as they try to produce excellent results with all students irrespective of their diverse

background and ability levels. The expectations of the TP were therefore viewed as high and this can put pressure on the teachers who end up stressed.

Evaluation of the TP

One of the issues that reverberated in all my interviews with the teachers was the need to evaluate the TP. It emerged that no formal evaluation of the project was instituted, and teachers felt that the TP might have lost good opportunities to improve by failing to tap on the feedback from the teachers. One of the teachers whose views captured those of many stated clearly that: 'TP needs to go through an assessment and evaluation process. I didn't participate in any evaluation process before' (Rami). In the same vein, Tareq added that: 'we didn't complete any questionnaires at all; neither did anyone come to ask anything regarding TP in the school'. This was enough to demonstrate the lack of monitoring and evaluation procedures during the implementation of the TP. Clearly, if the project was to be successful, the need for evaluation cannot be over emphasised. In my view, if evaluation was embedded in the project life cycle, it could have been possible to identify problems at an early stage allowing the designing of appropriate solutions. It was not clear from the conversations with teachers why evaluation of the TP was not planned.

Pedagogical and technical support

As indicated earlier, the TP involved the introduction of new technologies in the schools during the first phase. The government was determined to ensure that teaching was enhanced including the overall students' learning experience. It was revealed during the interviews that one of the major problems that militated against the effective implementation of the TP was the lack of adequate pedagogical and technical support, in particular, support in terms of knowing how to improve instructional design through the use of appropriate teaching methods that takes advantage of the available technologies. The other problem was that no one was available to help teachers with the repairing of the broken equipment, and technologies in schools. This was highlighted by Salem when he said: 'TP tried to develop the learning environment but had no follow-up procedure. It did a lot of things but without repairing and fixing broken technologies'. I was shown many pieces of broken equipment including laptops, projectors and smart boards in each of the participating schools. In the second phase of the project, emphasis was no longer placed on technology use as schools were given autonomy to identify their own needs. The government was available to support any of the initiatives in the schools. With broken

equipment and technologies and lack of adequate pedagogical support, it was difficult for the teachers interested in technology use to embrace the technologies.

5.5.6 Teachers' perspectives of the curriculum

Similarly, to the question raised with the school heads, I also asked teachers about their interpretation of the concept of curriculum. It emerged that for a considerable majority of the teachers in the participating schools, the term curriculum was equivalent to the textbooks in use. For example, Fred contends that: 'curriculum is mainly the subject content I should give to students'. In this case, he was making reference to the limited view of the curriculum as equivalent to textbook content. However, a minority understood that the curriculum encompassed not just the textbooks, but many other activities conducted in and outside the school. For instance, Salem commented that: 'the traditional view sees curriculum as the textbooks, however, curriculum is much bigger than that. It includes the textbooks, the learning environment and the way the teacher and the students deal with each other'. The concept of curriculum will be discussed further in the next chapter and an effort will be made to discuss it in the light of the perceptions of other authorities who report from other countries such as those in the west.

It was interesting to note that teachers held quite a diverse view of the curriculum and the purpose of the curriculum. Some teachers commented that the curriculum under the TP was expanded to include opportunities for students to develop critical thinking. For instance, in science subjects, students had to do practical activities before getting exposed to the theory as a way to challenge them to think and develop their own understanding of the phenomena. Haytham further commented that 'the new curriculum allowed students to share and participate more actively in the learning process which was one of the TP objectives'. Some teachers felt that the curriculum was rigid and as teachers they could not make any changes. Tamim captured the views of many teachers when he said: 'the curriculum from my experience is something that has been prepared and your job as a teacher is to deliver it to the students. You cannot delete or add anything to the curriculum'. If every teacher limits their role to implementing the TP 'blind-fold' then it would be difficult to make good progress with the innovation. In this study, it has been shown that most of the education professionals in Saudi (including school heads and teachers) have a limited view of the curriculum.

5.5.7 Extra-curriculum activities

The teachers thought that the introduction of more extra-curriculum activities was a positive development in the overall students' learning experience. Tareq elaborated that the introduction of clubs contributed to a change of behaviour among students. For instance, he added that: 'I was in a school where there were students with bad moral behaviour, however, in the second year of TP these students were much better in terms of their behaviour' (Tareq). The students were believed to have changed their behaviour due to the opportunities to engage with various clubs that were introduced under the TP. The teachers welcomed the availability of financial support which helped their schools to introduce a number of extra-curriculum activities for their students. Similarly, Salem added that the clubs were helping students to be engaged in their learning stating that: 'the number of students doing these extra-curriculum activities is increasing and the teachers observe that students are happy and interested in the activities'. The clubs were mainly done after school. This was thought to be important as students were provided with opportunities to expand their learning or to engage in sporting activities. This helped students to be kept away from other unhelpful activities that they would normally engage in after school. All the clubs were supervised by teachers and this inculcated a great deal of discipline and educational value to the activities. I also learnt that some teachers introduced clubs just because they were interested in the financial support provided by the TP but lacked serious commitment to educating and supporting students to develop their skills and knowledge. Despite this, students tended to benefit anyway as they engaged in the activities which did not always require the presence of teachers as students could organise themselves. The issue of extra-curriculum activities was highlighted by all the different stakeholders in my study and will, therefore, be discussed further in the next chapter.

5.5.8 Impact on students' learning

I was interested to establish the net impact of the TP on students' learning experience from the teachers' perspective. According to the teachers, the TP contributed immensely to students' learning experience, especially through the provision of opportunities to engage in activities independently. One of the teachers stated that: 'I love the teaching approach where the students start using their own knowledge and stop relying on the book only' (Salem). Apparently, in the past, learning was predominantly aligned to the content in the textbooks, however, the TP helped to encourage students to access other sources

of information, for example, the use of internet. Again, students developed various skills through active participation in extra-curriculum activities. Some teachers, however, commented that although there were not too many positive things that students might have gained from the TP, they still felt that the TP provided better programmes compared to the past curriculum. Another teacher commented that: 'I think students want to have their personalities developed and have their voice, they don't want to memorise this or that' (Tareq). I could glean that the teacher here was alluding to the fact that the TP provided the students with the chance to develop personally through the various programmes that were made available to them. In addition, students can only have a voice if dialogue is encouraged between the teachers and students in terms of what should be included in the school curriculum and how that should be taught. Other more radical views of the impact of the TP on students' learning were provided by Tamim who said that 'students are not aware of the TP. They do not care about the new curriculum as their main concern is the degree'. In the earlier sections, I discussed the problems of communication which might explain why some students did not have a chance to know about the TP. If it is true that there are students who were just focused on attaining a degree without thinking 'outside the box', then clearly, this would be a cause of concern as the quality of learning would be affected negatively. The following section discusses the students' data.

5.6 Data from students

My study involved working in partnership with a total of twenty-five students. I selected five students from each of the participating schools. My aim was to find out what students who experienced the TP think about it. I conducted focus group discussions with the students and this enabled me to gain insight into what it meant to be a student under the TP. The students I worked with only experienced the TP phase 2. I could not find students who experienced the TP phase 1 as they all had finished their secondary school studies and are now difficult to track. A number of themes emerged from the analysis of the interview data and these will be discussed in the following section. The names of the students used here are pseudonyms to ensure that the research ethical principles of ensuring anonymity and confidentiality of participants are upheld.

5.6.1 Students' perspectives on communication

The interview data appear to show that the TP project was not communicated effectively to students. Similarly, to what happened with some teachers I interviewed, I noticed that a considerable majority of students were not aware about the TP despite having been part of the TP phase 2. It appears to me that information about the project was not formally structured and passed on to the students. I learnt that this is a common practice in Saudi Arabia, when curriculum innovation is introduced, it does not have to be explained to students but to the teachers who deliver the curriculum. It was therefore not a big surprise when most of the students mentioned that they did not know anything about the TP. When asked to comment on what the TP involved, most of the students' professed ignorance of the name of the project and what it stood for. The views of the majority of students were well articulated by one of the students, Zeyad, who said: 'I don't know anything about the TP'. Similarly, Yasir stated 'I only heard about the TP from the media and I saw a Tatweer leaflet, but I have not seen it implemented at any school'. It is possible that due to a lack of full information about the project, some of the students like Yasir were unable to tell whether the TP was being implemented or not as I said earlier on, it is possible that teachers were just using the TP approach to teaching and learning without necessarily telling the students what they were doing and why.

A minority group of students, however, indicated that they knew about the TP as information was passed during school meetings and other events such as the parents' evenings. Only a handful of students from one of the schools in my study indicated that they got some information about TP from the school. This suggests that the other participating schools were not communicating the information about the innovative project to students. Knowing that the schools were actually implementing the TP in some cases, I decided to just ask students about their learning experience without mentioning the name TP that would not make sense to them. Through this, I still managed to gain some important insights into the situation obtaining regarding the implementation of the project in schools.

Students constitute one of the important stakeholders in the implementation of the TP. Arguably, they were supposed to be introduced to the project, so they could understand the changes that were taking place in their learning journey. Shafi, one of the students reiterated the importance of having a good understanding of the project when he said: 'I think students need some lectures to know more about the programme'. This view was

echoed by many students who felt that they were left out in the dark, yet, it was important for them to know about the initiatives being trialed in the schools.

5.6.2 The use of technology in learning contexts

One of the themes that came up in my conversations with the students was the use of technology by teachers and students in the schools. Through the TP, the use of new technologies in teaching and learning was promoted. I asked students to share their experiences of using technologies in their learning. It emerged clearly during the focus group discussions that students were generally happy with the integration of technology in their learning. However, according to students, not all teachers were using the new technologies in their teaching practice. It appears that some teachers were not confident with the use of new technologies choosing to make use of the traditional methods in the classrooms. Training to use technology was provided in some of the schools but this does not appear to be the case in all the participating schools. One of the students, Rajab, stated that: 'some of the teachers didn't have the experience and some teachers, especially [the experienced] ones preferred to continue to use the traditional methods'. It was interesting to note that students were quite observant and could tell the differences between the different groups of teachers in terms of the use of technology. Khalid stated that: 'the use of new technology was a shock to some of the teachers. Some new teachers could use the technologies but were not consistent'. I gathered that some teachers lacked training in the use of the technology and others chose to continue using the traditional approaches simply because they were "lazy" to embrace the technology. Rather than being lazy, it is possible that the teachers were not confident enough to employ the new technologies and this might be linked to the poor training and lack of on-going technical support in the schools. This will be discussed in the following chapter in more detail.

Some students indicated that they enjoyed seeing their teachers using new technologies in the classrooms. For instance, Majid, commented that: 'one of the teachers created a website for sharing students' learning experiences and students were able to submit their homework through this website. It was an amazing experience'. Weal added that: 'some teachers tried to use technologies like projectors and smart boards'. It can be appreciated that although not every teacher was successful with the use of new technologies, some of them tried to change their practice through the use of the new technologies. This enriched the teaching and the overall students' learning experience.

One of the questions I asked students was whether they had actually started using new technologies themselves. It turned out that, some of the students who were fortunate enough to be taught by teachers who were "innovators or early adopters" of the technologies, had an opportunity to make use of some technologies in their learning. The students were happy with having access to internet and use of laptops in the schools. On the other hand, as cited by Zeyad, some students found it difficult to get used to the changes brought about with use of new technologies: 'it was hard for the students who were used to using pen and paper to start using laptops'.

The use of new technologies was affected by lack of maintenance facilities. Talking about the situation in their school, Nawaf commented that: 'most of the projectors are no longer working'. Although he mentioned projectors only in his example, it appears that no one was available in the schools to take care of the repairs. In this case, all the equipment that broke down was left lying idle in the school. Some teachers were quoted saying: 'we wish if those projectors were working, the lessons would be so easy for the students' (Azam). Clearly, if technology is to be embedded into teaching and learning effectively, there is need for technical and pedagogical support to ensure that both teachers and students know how to make use of the technologies and if the technologies break down, someone with the technical expertise should be available to repair the technologies.

5.6.3 Curriculum innovation

The students commented on the new knowledge gained from the new school curriculum which they felt was richer and relevant. There was a feeling that the knowledge they were developing was connected to real life experiences. As explained in one of the earlier chapters, the TP involved restructuring the curriculum content with a view to enriching the students' learning experience. A number of comments were made about the different subject areas that the students were learning in the schools. For instance, Rajab said: 'the new books [English textbooks] are excellent'. The same view was echoed by Yasir: 'by the way, the design of the textbooks is very nice'. There were also calls for more practical work in the learning experience suggesting that the curriculum might have lacked more practical learning opportunities for the students. For example, Rajab said: 'the Science [curriculum] is good but lacks the practical part'. Students also felt that their teachers tended to struggle with some aspects of the new curriculum, particularly, the use of English language appeared to be a challenge for them. Othman stated categorically that:

‘teachers were also learning as they never had nothing like this in their curriculum, it’s something new for them too’.

One of the major changes cited by students in the curriculum was the opportunities to engage in research work. Commenting on the benefits of the new curriculum, one of the students captured the views held by most of them when he said: ‘the research skill is one of the good things we have learnt’ (Khaled). In the same vein, Zohar reiterated that: ‘I agree we have the research skills now, in the past we thought it’s very difficult but now we know these skills’. It appears that the TP ushered in some changes in the curriculum which made it possible for students to develop more skills including research skills which they found useful and an important preparation for higher level studies.

The TP phase 2 was characterised with the expansion of extracurricular activities. The school curriculum was enriched with sporting activities, field trips and the formation of clubs, for example, health club. Students appreciated the opportunity to develop different skills through participating in the clubs. Mansour indicated that: ‘there are lots of activities, for example, we go on trips and we have activities in the school too. Students can open small business adventures including mini-shops and sell some stuff to learn about marketing, accounting and business in general’. The introduction of different extra-curriculum activities meant a big cultural shift for the students who were previously focused on religious education. The TP provided all the funding for such activities. In the next chapter, the impact of religion and cultural factors on the implementation of the TP will be discussed. Commenting on the effectiveness of the clubs, Rajab, indicated that ‘the clubs were safe for students because they were observed by a supervisor’. Another student, Omar, commented that: ‘the clubs are really great, I attend many times’. The extra-curriculum activities were cited as excellent opportunities for students to expand their knowledge and develop their skills in different areas including personal development and entrepreneurial skills.

5.6.4 Student voice

According to the students, the TP did not provide opportunities for students to give feedback regarding the effectiveness of the project. This might explain why most of the students were ignorant about the project. The study shows that no evaluation of the TP was conducted with students, yet, students constitute one of the most important stakeholders in the implementation of the project. The views of students were well

articulated by Rajab who pointed out that: ‘it is important to consider students’ views in the curriculum. I think it is not the school or college administration issues that are more important than the students’ requirements and needs’. Another student added that: ‘we were never given any questionnaire or asked about the strength or weakness of the curriculum’ (Moaaz). This was echoed by Waleed who said: ‘sometimes teachers only asked me about my opinion of the curriculum, but no official evaluation was done by any external people’. Based on what students said, sometimes they just got opportunities to discuss the curriculum with their teachers informally; however, this did not yield any good results as nothing was done to change or improve the curriculum. Arguably, students should have been involved right from the onset of the TP to ensure that the designed curriculum would be relevant and useful in terms of meeting students’ needs.

5.6.5 Teaching methods

I asked students to reflect on the teaching methods used by their teachers with a view to understand whether any significant changes were made as a result of the TP. Generally, it appears that no big changes were made in terms of the teaching methods employed by the teachers. One of the students who represent the views of the majority of students stated the following: ‘learning by memorising, I think it’s still there, however, the new textbooks try to reduce dependence on it’ (Jafar). Here, the student meant that the textbooks they were using in the different disciplines provided some independent activities that challenged students to think critically and work independently. It was noted by some of the students that although teachers maintained most of their teaching methods, to some extent, they were now being encouraged to develop independence in their learning. It appears that the use of technology by some of the teachers facilitated independent learning as students were being given access to learning materials prior to coming to class, including opportunities to discuss using online platforms. This was articulated by Mishary who said: ‘learning by memorising still exists; however, some teachers are trying to use technology to minimise students’ dependence on the teachers for information’. The issue of technology use in teaching and learning and the potential to help students to become autonomous learners will be discussed further in the next chapter.

5.6.6 Other

The students talked about the need for the education system to improve. For instance, Seafr, on behalf of the rest of the students, said: 'I want the education [system] to be improved. I am hearing everyone saying the education system is bad compared to the past and this hurts my feelings'. Although Seafr did not elaborate on what aspects of the education system needed change, the call for improvement was made loud and clear during individual and focus group interviews with students. This indicated to me that the implementation of the TP did not necessarily address all the felt problems at school level. This might mean that the design of the curriculum innovation left out the views of some key stakeholders, including students and teachers in the schools.

Students were happy to participate in my study and welcomed the opportunity to share their views regarding their learning experience in schools. The overall feelings of all the students were reflected in the words of Khaled who said: 'we are very happy to see someone asking us about our opinion of the TP'.

5.7 Chapter conclusion

This chapter has presented the primary data of my research study. The quotations from interviews with the different stakeholders were translated from Arabic to English language but an effort was made to ensure that these were verbatim. All the translations were done by myself and this helped to ensure that correct records were recorded. Furthermore, all the interview transcripts were shared with the interviewees to authenticate the record of the conversations held. The next chapter contains the discussion of findings in the light of the literature.

CHAPTER 6: DISCUSSION OF FINDINGS

6.1 Introduction

As indicated in chapter one, my research focused on exploring the implementation of the Tatweer Project (TP) in selected public secondary schools in Saudi Arabia. In this chapter, I present a discussion of the research findings by synthesising the primary the data from chapter 5, the critical literature review in chapter 3 and my own voice. In particular, the aim is to create coherence between findings from the study and the literature. The chapter, therefore, constitutes my critical reflections upon the issues and debates raised through my analysis of data in chapter 5. In the preceding chapter, I represented the experiences of the representative participants namely: students, teachers, school heads and policy-makers separately. In this chapter, the main research questions are used as the principal lenses to illuminate the key issues arising from my data and in the process, I demonstrate how the issues are related to the literature and the study context. The first part of the chapter discusses one of the main findings from my study, which is the conceptualisation of curriculum by the participants. This is followed by a discussion of the responses to the three main research questions and other important findings that emerged from my study.

6.2 The definition of curriculum

My study findings are consistent with the observation that, although the concept of curriculum seems straightforward, the task to define the concept is quite complex as definitions vary widely (Nelson et al., 1992). The most common view of the curriculum in the western countries and many other countries is that of a series of planned events and materials organised by experts that are intended to help students learn particular knowledge, skills and attitudes (Smith, 2000). In other words, curriculum is viewed as lessons/content/subjects taught and hopefully learned in schools. The learning takes place in a formal environment. Stenhouse (1975) indicates that many educators hold a narrow view of the curriculum as synonymous to the delivery of selected content. In the same vein, Hosp et al. (2007) assert that some educators refer to curriculum as content taught. Viewing curriculum as content has been criticised by different authorities (Wiles andBondi, 2007; Kelly, 2009). On the other hand, some authorities argue that the curriculum is much more than subject content. For instance, Marsh (2009) argues that curriculum involves much more than content to include the planned activities as well as

unplanned activities and what is actually delivered by the teachers and learnt by the students, that is, the actualised curriculum. It is also understood that students can also learn other things such as behaviours, perspectives and attitudes in a less formal manner, and this is referred to as the hidden curriculum (Nelson et al., 1992). In a way, as argued by McKernan (2008) educators either have a narrow or broad view of the curriculum.

My study findings showed that in the Saudi Arabian context, the concept of curriculum was interpreted as an equivalence of textbooks. This is consistent with observations made by some authorities that some educators have a limited view of the concept of curriculum. It was evident that the way the teachers interpreted the concept of curriculum affected the way they delivered the curriculum in schools. This resonates with observations made by Hoover and Patton (2005) when they said how one defines curriculum relates to how they implement it. It appears that during the pre-service teacher training, teachers are made to understand curriculum as textbooks with content to be passed on to students in schools. The teachers and school heads understood their role to be that of transferring the knowledge contained in the textbooks to their students. This reflected the dynamics in the curriculum processes in Saudi Arabia where the government has control of education (Alharbi, 2014). The curriculum is centralised and the government determines what is to be taught in schools ensuring that teachers are mere implementers of the curriculum who cannot make any changes to the prescribed curriculum. According to Smith (2000) when curriculum is conceptualised as a 'product' teachers are seen as consumers and not active participants in the curriculum design process. It appears that this is the situation ~~obtaining~~ pertaining in Saudi Arabia where teachers are not trained to participate actively in curriculum development processes. The curriculum is designed to reflect the government's political ideology (Apple, 2000), hence, the tight control of education in the country (Meemar, 2014). Contrary to the notion of stakeholder participation advocated by the process model (Stenhouse, 1975), it appears that the government is in favour of the objectives model in curriculum development processes which makes teachers consumers of the curriculum rather than being active participants.

Yet, the TP required teachers to have a broader perspective of the curriculum to include not only the content in the textbooks but also including methods of delivery, for instance, use of technologies; and the provision of other learning opportunities such as clubs and sports (considered as extra-curriculum activities), among others (Tatweer, 2010). It does appear to me that the limited view of the curriculum that the teachers had might have

constituted a barrier in the implementation of the TP in schools. The teachers were prepared to focus on transfer of knowledge from books to the students, yet, the TP brought in a new dimension in the responsibilities of the teachers. Under the TP, there was emphasis on pedagogy which meant teachers had to think about ways of teaching that ensures a student-focused approach and reflection. The use of new technologies to enhance students' learning experience was viewed as a burden by most of the teachers who were failing to reconcile their own interpretation of curriculum with that of the TP. Although this was not one of my research questions, I found it interesting and useful to reflect on as the teachers' interpretation of curriculum impacted on their response to the implementation of the TP.

The following section focuses on the discussion of the responses to each of the main research questions.

6.3 Response to research question one

How did students, teachers and school heads in the participating schools in Saudi Arabia experience the Tatweer Project?

My study findings showed that the implementation of the TP was met with mixed feelings among the different stakeholders involved. The project sought to bring about massive changes in the education system in public schools in Saudi Arabia (Tatweer, 2010). The public schools were faced with numerous problems including the predominant use of traditional teaching methods such as rote learning (Alharbi, 2014), dictation (Alharthi and Woollard, 2014), lack of use of technology (Al-Madani and Allafiajiy, 2014) and learning of theoretical concepts without application (Shea, 2006). According to Lindsey (2010), the Saudi education system was being criticised for being traditional, centred on religious instruction and insensitive to the social and economic realities of everyday life. For instance, students were taught to memorise and not to be critical thinkers. Yet, society needed problem solvers and critical thinkers who can champion the society's socio-economic development agenda. Bearing these problems in mind, concerted efforts were made to transform the teaching and learning landscape to ensure that schools in the country would be modernised to compete with schools in the other developed countries (Tatweer, 2010). This initiative meant that some sweeping changes had to be embraced by the different stakeholders in education including students, teachers, school heads, policy-makers and even parents. As discussed in the preceding chapter, my study sought to understand the experiences of some of the representative participant groups. It was

important to find out how this unprecedented curriculum innovation in the country was perceived by students, teachers and the school heads who in my view had the opportunity to experience the TP in different capacities. A number of themes emerged from my study and these are discussed in the following section.

6.3.1 Curriculum innovation implementation models: Top-down vs Bottom-up model (School-Based Approach)

My study revealed that the TP was implemented in two different phases confirming earlier findings by Al-Shibani (2015) and Alyami (2014); and I established that the participants had different perceptions regarding each phase. The major distinction between the two phases is that in phase 1, the TP was externally driven, that is, a top-down approach was used (Fullan, 1972; Marsh, 2009) while in phase 2 the project adopted a bottom-up model in its implementation (Macdonald, 2003). Some notable differences were observed in the way participants such as teachers and school heads responded to the TP in each phase. The findings from my study confirm the observation made by Alnahdi (2014) that the approach used to implement the curriculum innovation can affect the way the stakeholders respond to the curriculum.

My study findings confirmed the tensions that exist in externally driven curriculum innovations and the benefits of adopting a school-based approach in curriculum innovation implementation. The use of top-down approaches in curriculum development and implementation is associated with the notion of control. In this case, teachers' influence in the curriculum development process is minimal. According to Macdonald (2003) this model is also known as 'teacher-proof curriculum' given that teachers barely have a say in the curriculum development process. As observed by Marsh (2009), the top-down approach is prescriptive in nature given that the curriculum is designed by a team of experts without the involvement of other key stakeholders including teachers. It is also argued that the top-down approach is useful to achieve standardisation of educational goals at national level (Marsh, 2009). However, it is also true that this approach reduces individual autonomy and creativity and exerts pressure on the teachers to achieve the set standards (Fullan and Earl, 2002). In the same vein, Carless (1997) highlights that the top-down approach is linked to failure of innovations to take root due to lack of the sense of ownership on the part of the teachers. These issues discussed in literature resonate with the findings from my study. It emerged clearly that despite the clarity of purpose and the development agenda of the TP, the school heads and teachers felt dis-empowered by the

prescriptive nature of the curriculum innovation. The Ministry of Education was in charge of everything (especially during the TP phase 1) and schools were seen as passive recipients of the innovation. According to the participants, this was one of the reasons why the innovation faced difficulties in schools. There was lack of sense of ownership among the teachers and school heads who were supposed to be key players in the implementation of the project. The project was meant to run for five years in the pilot schools from 2007 and then cascade to more schools across the country. However, this did not happen as the study established that after three years, the first phase of the TP ended marking the beginning of the second phase, which brought in new structural changes in the management and implementation of the project. It was not a surprise to see the TP adopting a top-down approach, this is what the Saudi government has always used in the past as they seek to control education at all levels (Alharbi, 2014). However, my study showed that the use of 'teacher-proof curriculum' (Macdonald, 2003) is problematic given that teachers as arbiters of the curriculum can choose what they consider relevant to implement in the classroom and leave out what they do not consider to be relevant. Not everything included in the TP was implemented in the schools. This is in line with observations made earlier by Marsh (2009) when he said that it is not always possible to have total control over the teachers. This means although teachers can be alienated from the curriculum design process, they still play a pivotal role in the implementation stage as they can choose to make the curriculum successful or a failure. In my view, the failure of the TP to get institutionalised in schools in the first phase should alert the government and all key stakeholders on the need to collaborate effectively when engaging in such important undertakings. The need to collaborate with all relevant stakeholders has been discussed in literature (Fullan and Pomfert, 1977; Hargreaves andShirley, 2009). Perhaps this reality dawned on the Ministry of Education officials as they went on to change route in the second phase of the TP. On the other hand, I think that judging the TP phase 1 as a complete failure might be too harsh given that to some extent the project succeeded in deploying new technologies in all the participating schools. However, the use of the technologies did not reach the expected levels as teachers lacked training, among other things, to use the technologies effectively.

Having realised the shortcomings of the top-down approach used in phase 1, the Ministry of Education proceeded to adopt a new approach for the implementation of the TP. There was a shift from the use of a top-down approach to a bottom-up or school-based model. My study findings resonate with literature that describes school-based curriculum

development as a means to increase teacher empowerment and democratisation of the curriculum development and implementation process (Macdonald, 2003). I found out that teachers and school heads were positive about their involvement with the TP in the second phase. As explained in the primary data chapter, the phase 2 of the TP introduced some new administrative structures including the change of the management style. The conspicuous change in this phase which was welcomed by the schools was the empowerment of school heads and teachers. In a way, the TP adopted a mutual adaptation model for its effective implementation in phase 2 (Fullan, 2000). Unlike in phase 1, schools were now responsible for identifying their own needs and getting support from the Tatweer Company to address their felt needs. The newly established Tatweer Company was working in collaboration with the Ministry of Education to implement the new strategic plan. It is important to highlight that the role of the company was not to prescribe any changes in schools but to support schools to address their felt needs by providing funding, advice and training. As will be discussed later, the Tatweer Company was not always successful in its aspirations to provide leadership and to champion the implementation of the TP. As discussed in the literature, the sense of ownership of the curriculum changes facilitated the implementation of the TP in phase 2. Commenting on the need to involve teachers, Troudi and Alwan (2010) stated that the more teachers are involved the more effective the curriculum implementation can be. The school heads and teachers felt empowered to execute their roles with enthusiasm. The study finding echoed what Stenhouse (1975) highlighted when he talked about the process model of curriculum development stating that teachers can be enthusiastically engaged when they participate in the whole curriculum development process from the onset. In the same vein, Pinar (2011) asserts that when teachers cease to be consumers and become active participants, curriculum implementation can become more effective. However, it can be argued that the enthusiasm was also affected by other factors in the curriculum implementation process as will be discussed in the subsequent sections.

Students felt that the implementation of the TP was useful in terms of enhancing their learning experience. However, it was also evident that their voice was not included in the curriculum development process. The students involved in the study could not comment on the first phase of the TP because they did not experience it so they only reflected on their experiences during the second phase. I agree with the observation made by Williams and Williams (1994) that students should be included in the decision-making process to increase their motivation and attitude towards the implementation of the curriculum

innovation. The same view is supported by Brooker and Mcdonald (1999) who argue that student involvement can enhance the quality of curriculum implementation citing how student involvement helped to improve the implementation of physical education curriculum in Australia.

The implementation of the TP needs to be looked at in light of the contextual realities in Saudi Arabia. The Saudi government is known in the region for its excessive control of education (Alnahdi, 2014; Rugh, 2002). It is a positive move that the government took the initiative to improve the provision of education in the public secondary schools. As indicated in the preceding chapters, a lot of money was invested into the TP. It can be argued that the top-down approach was a plausible option given that the government needed to bring about change in a short space of time and this meant that there was no time to involve all the stakeholders through consultations. On the other hand, the use of the top-down approach might reflect the government's understanding of 'curriculum as product' (Marsh, 2009) which means the objectives, content and assessment instruments are to be assembled by experts who are remote from the schools where the curriculum is to be delivered (Fullan, 1991). Maybe it can also be argued that at that stage there were not enough teachers qualified to handle curriculum change issues in schools. However, as observed by Tsafos (2013), failure to engage teachers in the curriculum development process creates problems during the implementation stage which in most cases results in the curriculum innovation failing to get institutionalised. It was revealed that most of the policy-makers responsible for the TP in the Ministry of Education did not have secondary school experience. This can be one of the reasons why it was difficult for the TP to address the needs of the schools, particularly in phase 1. As highlighted earlier on in this chapter, lessons drawn from the implementation of the TP in both phases, particularly in phase 1, should be a good indicator to the government and other key stakeholders that the curriculum change process should include all the voices if success is to be made.

As mentioned earlier, the implementation of the TP in phases 1 and 2 was perceived differently by the participants. The following section discusses the perceptions of the participants regarding the overall effect of the TP.

6.3.2 Benefits of the Tatweer project

Although in some cases the TP was seen as disruptive, my study found that participants appreciated the step that the government took to address concerns in the country's public

secondary education system. Literature shows that a number of problems were bedevilling Saudi public secondary schools. For instance, Al-Qahtani (1995) highlighted the lack of students and teachers' awareness and understanding of how to develop creative and critical thinking schools. Similarly, Almannie (2014) highlights limited extra-curriculum activities in the schools and Al-Madani (2014) mentions the lack of use of technology in schools. The same problems were echoed by Tatweer (2010) showing that they had endured in the system and needed to be addressed. The participants welcomed the improvements in schools. This included the introduction and use of new technologies in teaching and learning contexts, the provision of funding to offer more extra-curriculum activities in the schools and the use of innovative pedagogies that promoted active learning. The development of students as critical thinkers as opposed to passive recipients of information was one of the goals of the TP. Students felt happy with the opportunities to engage in research and other extra-curriculum activities. Lastly but not least, the provision of continuous professional development opportunities for both teachers and school heads was attractive to schools. Despite the perceived benefits stated here, it was quite clear that the implementation of the TP was affected by a number of factors. Some of the factors that emerged in the analysis of data are discussed in the following section, which focuses on curriculum change issues that were faced by the participants in the implementation of the TP.

6.4 Response to research question 2

What curriculum innovation issues were faced by students, teachers, school heads and policy-makers when the Tatweer Project was implemented in the public secondary schools in Saudi Arabia?

My study findings echo the observations made by various authorities who assert that curriculum innovation is not an event but a process that is influenced by a number of factors (Fullan, 1991; Marsh, 2009; Erss, 2014). Some of the factors discussed here dominated the discourses with all the participants and in some isolated cases; you will notice that some issues might be raised by specific groups of participants. Most of the study findings resonate with observations made in some of the previous studies. The different issues identified are discussed under specific sub-themes.

6.4.1 Communication

The importance of ensuring effective communication in the implementation of a curriculum innovation such as the TP is one of the key findings of my study. This resonates with the literature; for instance, Ely (1999) contends that one of the important conditions for successful implementation of an innovation is effective communication among the different stakeholders. All the school heads indicated that they were not clear about how the TP was supposed to work in the schools during phase 1. It appears that they were not given full information by the Ministry of Education regarding the implementation of the innovation. In the same vein, the school teachers also professed ignorance when asked to give details about the project. As shown in the primary data section, most of the students indicated that they did not know about the TP despite the fact that this curriculum innovation was being implemented in their schools. Clearly, if the key stakeholders are not provided with all the information about the curriculum innovation, how can it be implemented successfully? Williams and Williams (1994) emphasise the importance of ensuring that all key stakeholders have access to information about the innovation stating that this is vitally important to ensure that they are on the right track. Communication problems were not just experienced between the Tatweer Company and the schools but there were also communication problems among the different departments of the same company. I think that it could have been useful to ensure that from the outset of the project, the Ministry of Education should have publicised the project to ensure that all the key stakeholders including students, teachers, school heads and parents were aware of the envisaged change. During the implementation stage, it was necessary to ensure that effective communication systems were established within the Tatweer Project Company as well as between the company and the schools. My study findings confirm the importance of ensuring effective communication among key stakeholders for the effective implementation of a curriculum innovation. This has been discussed in literature, for instance, Lambert (2002) states that effective implementation of a curriculum innovation should be a shared responsibility implying that every member of the community should be aware of the goals of the innovation as well as the procedures for its successful implementation. In the same vein, Atawy (2004) emphasises the need for all stakeholders to be aware of what the innovation involves and highlights the importance of ensuring that the leaders communicate information clearly and in a persuasive manner so that no one can feel coerced to participate in the innovation. This underscores the need for leaders of the innovation and school heads to develop

effective relations with the other members of the community and to share all the relevant information effectively. This view is supported by Lezotte and Mckee (2006) who assert that if all stakeholders are clear about the innovation, they would be committed to the shared goals and this is fundamental to the success of the innovation.

6.4.2 Planning

It appears that the implementation of the TP was also affected by a lack of adequate planning. This emerged from the interviews conducted with the policy-makers, the school heads and teachers. There was a feeling that the whole innovation was implemented in a hurried atmosphere, contrary to the assertion that change does not take place over night (Parsons, 1977). There was need for more planning time to ensure that everything was put in place including capacity building. For instance, the school heads pointed out that their schools were selected because they had good facilities and basic infrastructure. The Ministry of Education did not appear to have had enough time to start building basic structures in schools for the implementation of the TP. The lack of clarity among school heads and teachers on what the innovation involved during the first phase of its implementation also demonstrated how chaotic the approach was. The participants indicated that no workshops were conducted in the first phase prior to the implementation of the innovation; hence, the lack of knowledge and skills to keep on the right track. According to Ely (1999), users of an innovation should have knowledge and skills to employ the innovation. This certainly underscores the need for effective communication of the innovation to the implementers including in the case of the TP, the school heads and the teachers. The planning should have involved all the different stakeholders as suggested by Brundrett and Duncan (2015) who say that all stakeholders should be involved in the curriculum innovation processes from the onset. Effective planning should anticipate and put in place mechanisms to deal with possible problems and challenges (Williams and Williams, 1994).

6.4.3 Leadership, monitoring and evaluation

My study findings confirm the significant role of ensuring that sound leadership is in place for the effective implementation of a curriculum innovation. According to Fullan (2006), it is important to ensure that effective leadership is provided if educational change is to be a success. I concur with Fullan's (ibid.) view that there should be 'system thinkers' who can support those on the ground such as school heads, teachers and students in the

implementation of the innovation. This view is further buttressed by Williams and Williams (1994) who posited that the champions of the curriculum innovation should engage with the implementers to show their support and promotion of the new change. It appears that the TP faced a leadership crisis, particularly, in the first phase where the Tatweer team members from the Ministry of Education appear to have failed to provide leadership to the school heads and teachers for the implementation of the innovation. Given that this project was externally driven, the need for sound leadership from the Ministry of Education cannot be over-emphasised. As argued by Sergiovanni (2007), the success of a curriculum innovation should be a shared responsibility which means there is need for the innovation leaders to engage effectively and provide leadership to all stakeholders. In phase 1, the main focus was the integration of the new technologies in the schools. Apparently, the Tatweer Smart Schools, as they were branded, received the technologies but without the full explanation and training on how to harness the technologies effectively. For the first three years of implementation, there is no evidence of any systematic monitoring and evaluation of the innovation. As a result of this, the Tatweer team in the Ministry of Education failed to identify problems as they emerged and hence, no solutions were provided to the challenges and problems faced in the schools. According to the participants, this explains why the TP failed to get institutionalised in phase 1. The same problem of lack of monitoring and evaluation continued in the second phase. All the participants in the schools including school heads, teachers and students indicated that no evaluation was conducted during the implementation of the innovation. This is an area worth improving in future if the curriculum innovations are to be a success. The importance of monitoring and evaluating any curriculum innovation project has been discussed in literature. My study findings are consistent with observations made by different authorities (Atawy, 2004; Friedman, 2004) that there should be effective monitoring of the innovation in the implementation stage to ensure its success. This highlights the importance of effective leadership as argued by Chaudhary (2015) who states that school heads should monitor and supervise teachers and other staff in the schools to ensure that they work towards the achievement of the set standards. Effective monitoring of members in the Tatweer schools should have helped to create a conducive environment for student learning (MacNeil et al., 2008). In a way, the leaders of the curriculum innovation should facilitate the implementation of the innovation by ensuring that all stakeholders are listened to and also that they should monitor the implementation process to ensure the established procedures and standards are adhered to (Sergiovanni, 2007). Effective leadership, which includes monitoring and

evaluation, will enable the recognition of achievers and their subsequent rewarding which helps to foster the implementation of the innovation (Pepper, 2010). In the case of TP, it emerged that due to lack of recognition of the teachers, some teachers chose to transfer from the Tatweer schools to work elsewhere. This could have been avoided if there was effective leadership that helps to create a conducive environment that promotes student learning and teacher satisfaction as well as the adoption of the curriculum innovation (Hallinger, 2003).

6.4.4 Teachers' attitudes

The implementation of the TP was affected by some negative attitudes shown by some of the teachers. The TP introduced the use of new technologies in teaching and learning and teachers were meant to learn how to make use of the technologies to enhance their teaching practice. The study findings showed that some of the teachers were unwilling to learn how to use the new technologies opting to continue to use the traditional methods. This is consistent with the observation made by Callister and Dunne (1992) who stated that if the teachers do not know how to use the technology they will either use them badly or avoid using them. In the same vein, Zhao et al. (2002) contend that if the innovation implies a big change of practice, teachers may avoid its use. For instance, the TP involved the use of new technologies in the first phase, yet, teachers were used to traditional teaching methods. Possibly this could have been averted by ensuring that all teachers are involved during the curriculum development process. Brundrett and Duncan (2015) assert that if the innovation has attributes that attract the users, it will have more chances to be implemented. Arguably, if teachers were involved from the beginning, they could have been prepared to embrace the change because the change could have been seen to address their felt needs. According to Kottkamp (1993), cited in Alnefaie (2016), teachers should not only be involved in the development of the new curriculum but they should engage with the rationale for change. If the teachers can get involved right from the outset this could prepare them for the change and help to inculcate the sense of ownership of the innovation which is vital for its success (Kelly, 1990).

6.4.5 Teachers' workload and incentives

The implementation of the TP involved giving teachers extra responsibilities. As highlighted earlier, the second phase of TP brought about some administrative changes which resulted in teachers being assigned some extra tasks in the TP. For instance, some

teachers were assigned as subject leaders or 'first teachers' responsible for guiding fellow colleagues in their disciplines. Some teachers were appointed to be representatives in the Excellence Teams within the schools. During interviews, I found out that these additional responsibilities were not accompanied by any incentives, such as a salary increase. The lack of incentives led some of the teachers to leave work in the TP schools and opting to work in schools that were not participating in the TP. This is another aspect of the TP that escaped the attention of the Ministry of Education during the planning stage and, hence, became a barrier to the implementation of the innovation. The importance of ensuring that incentives are provided to support the implementation of curriculum innovation is discussed in the literature. For instance, a number of authorities contend that lack of incentives constitutes an impediment in the implementation of curriculum innovations in education contexts (Wilson, 2010; Anderson et al., 2011; Gibbs and Coffey, 2004). In the same vein, Ely (1999) emphasises the need to ensure that teachers are provided with the knowledge and skills including incentives to implement the curriculum innovation. It is important for the school leadership to be able to identify and harness the experience and expertise of the staff to promote the implementation of the innovation (Lambert, 2002). This view is further buttressed by Chaudhary (2015) when he states that effective leaders should be able to delegate duties on the basis of the teachers' experience and expertise. The TP could have benefited if incentives were provided to the teachers and other staff involved in its implementation.

6.4.6 Funding and staffing issues

The introduction of the TP is reported to be an unprecedented curriculum innovation not only in Saudi Arabia but also in the whole of the Arab region. A huge amount of money was provided by the government to support the change. The importance of having adequate funds is discussed in the literature. For instance, Williams and Williams (1994) posit that there has to be adequate funds to support the changes, for example, training workshops and other logistical issues that need financial stability should be catered for in the budget. Despite huge sums of money that were invested in the TP by the government, it appears that the money did not cover all the expenses to ensure the smooth implementation of the innovation. The study findings show that the TP schools were faced with staff shortages citing that they did not have enough funds to hire additional teachers to support the project implementation. Funding is important to ensure that training workshops and other logistical issues requiring money can be catered for. This is discussed in more detail in the following paragraph.

6.4.7 Training opportunities

One of the factors that were shown to have an impact in the way the TP was implemented was training of the implementers including teachers and school heads. During the first phase of implementation, teachers received training for the integration of technology in teaching and learning, however, this was reported to be inadequate. In the second phase of implementation, the Tatweer Units (TU) worked closely with schools providing training to a few teachers who were expected to train others in the schools. In other words, they used the 'Train the Trainer model'. It appears that the trained teachers did not always manage to pass all the information to their colleagues due to pressure of work in the schools. This is why most of the teachers in the study indicated that they did not receive adequate training. The school heads had more training opportunities than the teachers with some training being offered outside the country. For the effective implementation of the TP, it was necessary for teachers to undergo systematic and well-structured continuous professional development. The TP was intended to transform teaching and learning. Understandably, the teachers in Saudi Arabia were supposed to undergo a paradigm shift in terms of their teaching practice. These teachers were used to being controlled and were trained to work to the book (Alnefaie, 2016), yet, the TP expected them to be creative, innovative and critical thinkers to be able to promote the development of these attributes in their own students. A study conducted in Saudi Arabia by Al-Qahtani (1995) showed that there was a lack of creativity and critical thinking skills among students and teachers. This was reiterated by Lindsey (2010) and this appears to show that this was one of the deep-seated problems in the country's education system. In my view, failure to provide adequate training to the teachers who play such an important role in the implementation of curriculum change was tantamount to subsequent failure of the innovation to get institutionalised. The findings from my study are consistent with discussions in the literature around the role of training in curriculum innovation. For instance, Harvey and Holland (2011) state that training is important and crucial in terms of ensuring that teachers can help students. Most of the Saudi teachers came through a system whose pedagogy was based on rote learning and so to expect them to embrace the TP ethos without undergoing intensive training themselves can be a big ask. In a study conducted in Saudi Arabia by Aljughaiman and Grigorenko (2013) it was shown that rote learning in the country was associated with a low standard of teaching practices, hence the need to provide training opportunities to the teachers on the TP cannot be over-emphasised. As argued by Rogers (1983) sometimes innovations can be complex and this

calls for effective training of the teachers to gain the relevant knowledge and skills to implement the innovation successfully. In the same vein, Ariav (1988) states that teachers must be trained and be clear on how to interpret the curriculum innovation for its effective implementation. As stated by Ely (1999) the TP implementers should have been provided with more opportunities to hold systematic meetings to discuss the aims, content and other pertinent issues for the successful implementation of the innovation.

6.4.8 Technology use and support for teachers

My study findings indicate that the introduction of technology in teaching and learning in the schools was one of the conspicuous changes brought about by the TP in the school curriculum. As indicated earlier, schools were attracted to participate in the project because they were keen to have the new technologies in their schools to enhance students' learning experience. As stated by Al-Madani and Allafiajiy (2014) many schools in Saudi Arabia were lacking in terms of technology use. There was therefore need to embrace new technologies and enhance the quality of teaching and learning in schools (Groff and Mouza, 2008). More than three decades ago, Rogers (1983) posited that in order for a new curriculum innovation to be attractive to users it should have attributes that attract the users. Under the TP, schools are reported to have started using laptops, smart boards and having access to internet facilities including the use of projectors and electronic textbooks, among others. It does appear that schools were interested in having access to hardware, software, internet and other digital media. This was provided by the TP; however, no significant changes were made in teaching and learning. My study found that the computer hardware and the digital media that were meant to act as a catalyst for the transformation of teaching and learning in schools were not used as expected. As argued by Wager (1992) and Cuban (2003), it became apparent that having access to hardware and other digital media and software does not necessarily translate into meaningful integration of technologies in teaching and learning. In my view, the TP should have done more in terms of preparing the staff in schools to understand that technology is not just about having access to the machinery but it involves looking at ways of changing the pedagogical processes. Teachers could have been encouraged to focus more on developing an understanding of instructional designing to be able to identify how technology could be harnessed to enhance their teaching practice and students' learning experience.

The role of technology in teaching and learning is discussed widely in literature. For instance, Bingimlas (2009, p.235) contends that: 'the use of ICT in the classroom is very important for providing opportunities for students to learn to operate in an information age'. Similarly, Wong et al. (2006) argue that the use of ICT can play an important part in supporting face to face teaching and learning in the classroom. The use of technology cannot be limited to classroom contexts only. Currently, technologies are being used to facilitate students' learning even beyond the classroom. For instance, the use of innovative pedagogies such as flipped learning is a result of the affordances of the various technologies available in schools (Bergmann and Sams, 2012). For the staff and students who utilised the new technologies, they reported the benefits of the technologies stating how students were able to engage with learning material in their own time as many times as they wanted. Teachers also reported that they found the new technologies useful in terms of enhancing their teaching practice.

Despite the introduction of new technologies in schools, the TP did not manage to record better results because, as discussed in the previous chapter, teachers did not get adequate pedagogical and technical support for the effective use of technologies in teaching and learning contexts. Some teachers felt frustrated because they did not know how to make use of the technologies in the school. They could not even use the technologies to support their traditional teaching methods. The TP expected to see a transformation in the teaching philosophy with teachers moving from a teacher-centred approaches to student-centred approaches. The TP was meant to facilitate the development of independent learning skills, critical thinking skills and problem-solving skills, which were lacking among the students. Groff and Mouza (2008) rightly observe that not every teacher in schools is able to make use of technologies. This highlights the importance of providing technical support if new technologies are to be used effectively. According to Earle (2002), technical and pedagogical support is significantly important if teachers are to be encouraged to embrace the use of new technologies. It is not surprising to note that some teachers in the TP continued to use their traditional methods in their teaching practice. As is common with the use of new technologies, some teachers were just negative and did not bother to take any initiative to learn and embrace the new technologies in their practice. The lack of technical and pedagogical support in this case included lack of education developers who could provide closer attention and help teachers to learn how to take advantage of the new technologies, and lack of technical experts who could repair the broken technologies equipment in schools. I was shown a number of pieces of broken

equipment and technologies as I visited schools during my fieldwork. The case of technologies lying idle in schools recalls how Cuban (2003) talked about 'oversold and underused' technologies in schools. While it is true that technology is useful in terms of enhancing teaching and learning, it is also equally important to always remember that there is a need for both pedagogical and technical support in the schools to help teachers to embrace the technologies in their practices. Harris et al. (2010) indicates that school heads should play a leading role in terms of providing necessary continuous professional development opportunities. In the contemporary world, as argued by Shieh (2012), teachers need to have subject knowledge as well as the ability to employ new technologies in their teaching practice. This means that additional support should be provided to capacitate the teachers (Zhao et al., 2002).

6.4.8 Resistance to change and socio-cultural barriers

The findings from my study also confirmed that curriculum innovations such as the TP could be stifled by various objective factors including resistance to change and other socio-cultural issues (Alamry andAlfawzan, 1997). As discussed in literature, some curriculum innovations fail to take root because the stakeholders might be unwilling to embrace the change (Qian andZhang, 2011; Aggarwal, 2004). This usually happens when curriculum innovations are externally driven, for example, the case of TP in the first phase. This is why it is of paramount importance to ensure that the new curriculum innovation has got some attributes that attract the users (Williams and Williams, 1994). On the other hand, if the users have the sense of ownership of the innovation they are more likely to have a greater commitment to the new curriculum innovation. This has been widely discussed in literature (Brundrett and Duncan, 2015; Sergiovanni, 2007; Marsh, 2009). This was evident in the second phase of the TP where schools felt empowered by being given autonomy over their own development agenda (Macdonald, 2003).

My study also revealed the role of socio-cultural factors in the implementation of a curriculum innovation. For instance, the TP introduced the use of electronic books in schools and this was viewed differently by the different stakeholders. The religious leaders were unhappy with this development, as they feared that students would be corrupted by accessing other unacceptable materials while working online. Saudi Arabia is a Muslim country and religious leaders guard against the violation of religious values; hence, they keep an eye on what is going on in the public schools. The religious values

and practices in Saudi Arabia are highly regarded and this has characterised the education system both in the past and now (Rugh, 2002; Baki, 2004). The country continues to have same sex schools and religion also determines what is taught in schools and how the teaching and learning transactions are organised. For example, under the TP, a number of extra-curriculum activities were established in schools, but these were also promoted on a gender segregated basis. It is interesting though that the government rolled out the TP at a very complex time nationally and regionally, in particular, the second phase. The implementation of the TP coincided with some challenging times, for example, the after effects of the 9/11 attacks. It might have been very difficult for the government to focus on channelling all the needed resources in the implementation of the TP while a lot more attention was needed in some areas of socio-economic and political development. The determination to promote a particular vision of Saudi Arabia in the international arena might have propelled the implementation of the innovation. The findings from my study resonate with issues discussed in literature. For example, Rogers (1983) highlighted that the success of an innovation depends, among other factors, on its compatibility with the existing culture. In this case, the TP was brought in and some elements of it were in conflict with the cultural expectations of the people, for example, the use of electronic books and this created resistance to the change initiative. In the same vein, Brundrett and Duncan (2015) warned that if teachers do not believe in the underlying values of the innovation, it is unlikely that the innovation would get institutionlaised.

The following section focuses on the discussion of the research question 3.

6.5 Response to research question 3

How can innovative projects such as the Tatweer Project be introduced successfully in public secondary schools in Saudi Arabia?

A number of suggestions were provided by the participants and these revolve around addressing the observed shortcomings of the TP. Each of the suggestions given by the participants is discussed below making connections with literature whenever possible.

6.5.1 Voices

Most of the participants in my study (including students, teachers and school heads) reiterated the need to be engaged with curriculum development right from the outset of the process. The students posited that they were not consulted prior to the implementation

of the project and furthermore they were not able to give feedback about the project during its implementation. Teachers also felt that they were left behind when the innovation was developed; no consultations were made with the teachers despite being a rich source of knowledge from their day to today interactions with the curriculum (Handler, 2010). The positioning of teachers as implementers of what has been decided by policy-makers in Saudi Arabia (Alnefaie, 2016) should be discouraged. As argued by Oloruntegbe (2011) teachers should become an active part of the processes of curriculum design and implementation. I would argue that this should be the case for all the key stakeholders when a curriculum innovation is being planned, everyone's voice matters. According to Williams and Williams (1994), the work to bring about change should be a shared responsibility, that is, all the relevant stakeholders should meet to discuss and work closely to identify solutions to problems and challenges. The findings from my study echo views that have been discussed in literature. It has been highlighted that for a curriculum innovation to be implemented successfully, all the stakeholders should have a sense of ownership of the innovation (Erss, 2014; Kelly, 1990). In a way, it is important for all members of the community to be involved right from the onset of the curriculum innovation design process. In the case of the TP, teachers, students and school heads should have been consulted by the MoE before the project was rolled out in schools. This could have helped to address felt needs and to create a conducive environment for the project implementation (Troudi and Alwan, 2010). Brundrett and Duncan (2015) emphasise the importance of ensuring stakeholder participation. In the same vein, a number of authorities indicate that curriculum innovation should be a shared responsibility (Bush and Glover, 2013; Duignan, 2007; Hailey, 2006; Lambert, 2002). In my view, any future curriculum innovation projects in Saudi Arabia and anywhere else in the world should encourage stakeholder involvement right from the beginning to increase the likelihood of adoption. This is supported by Sager (2004) cited in Al-Shibani (2015) who asserts that educational reforms are stifled by individuals or groups who are unaware of the nature of the intended change and the process of innovation.

6.5.2 Availability of enough funds

There was an overwhelming consensus among the participants that adequate funds are needed to support the introduction of a curriculum innovation such as the TP. This would help avoid shortages of staff due to lack of incentives or money to hire additional staff to support the project. In addition, my study showed that the cost of the materials and technologies for the TP was high and this made it difficult to include many schools in the

pilot. The need for adequate funding has been discussed widely in literature. For instance, commenting on the conditions for effective implementation of a curriculum innovation, Ely (1999) highlights the need for adequate funds to be availed to ensure all the necessary resources are purchased. Brundrett and Duncan (2015) discuss the importance of ensuring that there are incentives available for the effective implementation of the innovation. These incentives might include salary increments or bonuses to encourage the staff to work hard bearing in mind that their efforts will be rewarded. As discussed earlier, for any innovation to be a success, the implementers should have knowledge and skills to promote the implementation of the innovation. In this regard, Atawy (2004) asserts that teachers, who are the implementers of the curriculum innovation, should be offered training to understand how to implement the innovation. In the same vein, Chaudhary (2015) states that school heads should create conducive environment for the implementation of the innovation by using funds to provide all the necessary resources including ensuring high staff morale through the provision of incentives. I think that apart from relying on government funding, other reliable sources of funds should be explored to ensure that the intended outcomes are achieved. The problem with the TP was that it relied solely on government funding

6.5.3 Continuous Staff development opportunities

One of the reasons why the implementation of TP was difficult in both phases was the lack of adequate training for the users of the innovation. Teachers play a significant role in the implementation of curriculum innovation; therefore, they should be equipped with adequate knowledge and skills for the implementation of the innovation. However, as observed in my study, in most cases teachers were not given enough exposure to training opportunities. Alotaibi (2011) commented that: 'I wish that teachers would not have to find out about changes and developments in the education system after all others have found out' (p.14). This means that teachers should not be treated as consumers but active participants in the curriculum innovation processes (Fullan, 2007; Stenhouse, 1987). My own view is that any curriculum change undertaking should be a shared responsibility and, therefore, everyone should be provided with training opportunities prior to the implementation of the innovation. In this case, priority should be given to the development of teachers who are in the front line when it comes to curriculum implementation. This means that enough funding should be made available right from the outset to ensure that all the necessary training workshops and continuous professional development opportunities are catered for (Williams and Williams, 1994). In the case of

the TP, given the teachers' background and experience, training was supposed to be built in the innovation. The TP aimed at transforming teaching and learning, bringing in new ideas about teaching practice that the teachers themselves needed to be familiarised with first. Failure to provide training to the teachers resulted in the failure of the innovation in the schools. This is consistent with observations made by Brownell and Tanner (2012) when they identified lack of training to be one of the main barriers for teachers' pedagogical change.

6.5.4 Stakeholder participation

My study confirmed the need for widespread consultations to be made with all the relevant stakeholders when a curriculum innovation is being planned. For instance, the implementation of the TP was hampered by some teachers' unwillingness to use technologies in their teaching practice. They felt that the technologies might be a threat to their cultural values and those of the students. Within the context of Saudi Arabia, the preservation of religious and cultural heritage constitutes an important consideration (Lindsey, 2010; Rugh, 2002; Baki, 2004). This can be true in any other society; hence, it becomes imperative for consultations with all the relevant stakeholders to be held to ensure that the curriculum innovation addresses felt needs. Williams and Williams (1994) contend that there has to be consultations with the wider community to ensure that community needs are addressed and also that every member of the community is aware of the changes. Fullan and Pomfert (1977) highlighted the need to ensure mutual adaptation for the success of a curriculum innovation. The same view is echoed by McLaughlin (2004) when he discusses the mutual adaptation model as an effective way to implement curriculum innovation. This involves encouraging participation of stakeholders and being sensitive to their needs, a phenomenon also discussed by Marsh (2009) when he stated that the success of curriculum implementation depends on the effective negotiation betwen the involved parties. The negotiations would make it possible to focus on common interests, that is, mutual adaptation (Marsh, ibid.). I would argue that if all teachers understood the value of technology as a means to enhance their teaching and students' learning experience, it is possible that there would be minimal dogmatic resistance of the change. The need to ensure participation of all stakeholders has also been discussed by Sergiovanni (2007) and Brundrett and Duncan (2015) who posit that this is crucial for the success of the innovation. This would help to ensure that all stakeholders are clear about the need for change and the procedures of the innovation.

6.5.5 Other

My study focused on the implementation of the TP; however, the findings confirmed the existence of other challenges within Saudi Arabia's education system. For instance, it appears that there are some shortcomings regarding the pre-service teacher training in the country. It was evident that most of the teachers in schools were unable to discuss pedagogical issues with confidence and I established through talking to them that the underlying cause of this was linked to ineffective pre-service teacher training. As discussed earlier, the TP did not provide intensive training to the teachers prior to their engagement with the innovation. Given that these teachers were not adequately equipped to manage the implementation of curriculum innovation, it can be understood why it was difficult for them to get to grips with the educational change processes demanded by the TP. I think pre-service teacher training remains one major component of the education system in need of further investment by the government to ensure that the curriculum provides opportunities for teachers to understand curriculum issues that are critical for the future of the country's education system. Closely linked to this is the need for the teachers to be inspired to engage in lifelong learning. As observed by Lindsey (2010), Saudi Arabia needs a new workforce with marketable skills and a capacity for innovation and entrepreneurship. There is need to introduce changes in the teacher training curriculum which can help teachers to understand different approaches to teaching and learning as well as to change their beliefs about teaching. The teachers believe that rote-learning works and this makes it difficult for curriculum innovations such as the TP to take root. As argued by Fullan and Park (1981) curriculum implementation should involve an alteration of materials, approaches and beliefs. I think if this is embedded right from the outset, that is, during pre-service teacher training, it will be easier to bring about more changes through innovations such as the TP. It might be necessary to conduct further research in this area in order to understand the issues and, therefore, come up with plausible suggestions for improvement.

The other interesting observation I made in my study was that the TP was implemented alongside many other innovative projects in Saudi Arabia (as stated in chapter 2). The Ministry of Education was responsible for the implementation of the different projects and I think that this might have affected the TP. Teachers might have experienced what Fullan (2007) calls 'teacher burnout' by being exposed to different and equally demanding innovations in schools. Understandably, the Saudi Arabia government was

keen to transform the education system in order to emulate what was happening elsewhere across the world, but this might have been overwhelming for the school teachers. This brings up an important lesson that curriculum innovations require effective planning to ensure that the timing of the innovation is good for its implementation.

6.6 Chapter conclusion

In this chapter, I discussed the problematic nature of the concept of curriculum as shown by the way the different participants in my study, that is, the teachers, school heads and the policy-makers including other scholars in literature conceptualise the term. The experiences of the TP by students, teachers and school heads have been highlighted. It emerged clearly that curriculum implementation is a process that involves alteration of materials, approaches and beliefs. The different stakeholders in the study had mixed feelings about the innovation with some citing perceived benefits while some challenges and problems were also brought to light. A number of factors that affected the implementation of the TP have also been discussed and these range from the characteristics of the TP curriculum innovation to characteristics of the education system as well as factors external to the schools. Lastly but not least, the chapter concludes by discussing suggestions on how similar innovations to the TP could be implemented successfully in future. Key suggestions included the need to provide staff development opportunities and the need to engage in wide consultations with the key stakeholders prior to the designing and implementation of the innovation. The study has many potential contributions to curriculum implementation. These will be examined further in the next chapter, that is, the conclusion.

CHAPTER 7: CONCLUSION AND IMPLICATIONS

7.1 Introduction

For a long time, the public schools' education system in Saudi Arabia has been subjected to criticism for, among other things, being traditional and centred on religious instruction, hence, being insensitive to the social and economic realities of everyday life (Lindsey, 2010; Al-harbi, 2014). To change the education landscape and to ensure that the public schools would be modernised and compete with other schools in the developed countries, the Kingdom of Saudi Arabia Government embarked on a number of educational reforms over the last two decades. As highlighted earlier in this thesis, one of the ambitious educational reforms has been the introduction and implementation of the Tatweer Project (TP) in 2007. As has been indicated in my study, the TP is an unprecedented curriculum innovation not only in Saudi Arabia but in the whole of the Gulf region. The Government demonstrated its commitment to develop human capital and to modernise the public schools in the country by spending a huge amount of money to fund the implementation of the TP. The aim of this study has been to interrogate the implementation of the TP in five selected public secondary schools in one of the country's 13 education administrative regions. This was achieved by eliciting the views of key stakeholders including students, teachers, school heads and policy-makers through a combination of one-to-one semi-structured interviews and focus group discussions.

The previous chapters provided context and highlighted the discourses around curriculum implementation based on literature and the practical experiences of the research participants. In this chapter, the predominant voice is mine as I provide a summary of the important findings from my study. The study was guided by three main research questions. The first question sought to explore the participants' experience of the TP. In this case, participants could articulate what they felt to be the benefits, the problems and challenges associated with the implementation of the curriculum innovation in schools. The second question focused on eliciting the factors that influenced the curriculum change process in the context of Saudi Arabia. Finally, the third question sought to identify ideas for the successful implementation of curriculum innovations such as the TP in schools. In this chapter, the conclusions from these main research questions will be discussed, paying attention to the implications of the study findings to policy and practice

as well as implications for the theoretical literature. In addition, I will discuss the limitations of the study, implications for further research, and finally, I will elaborate my personal reflections on the PhD journey.

7.2 Implications for Policy & Practice

My study findings revealed that the TP was a brain-child of the Ministry of Education (MoE) and was funded by the Government in its quest to address various deep-seated problems that were faced in the public schools in Saudi Arabia. The Government sought to diversify its economy and considered education to be the potent tool for its development agenda. There was need to ensure that students developed knowledge and skills to contribute to the country's economic development. The study findings revealed that the TP was implemented in two different phases confirming earlier findings by Al-Shibani (2015) and Alyami (2014). It was also established that the different stakeholders involved in the implementation of the TP perceived the curriculum innovation with mixed feelings. In this section, I will discuss some of the main conclusions drawn from the way the TP was implemented and reflect on the implications for policy and practice at different levels including the Government or Ministry of Education level, the school level and the classroom/teacher level.

7.2.1 Policy level

It was shown that the first phase of the TP started in 2007 and was externally driven, that is, a Top-down approach was used (Marsh, 2009; Fullan, 1972). The Government, through the MoE, prescribed the TP and schools were passive recipients of the curriculum innovation. The curriculum innovation focused on integrating the use of new technologies in schools to ensure that smart schools were developed where teachers would make use of the hardware, software and internet services to adopt new pedagogical approaches aimed at facilitating enhanced student learning experience. While on one hand the participants in the study showed appreciation of the Government's move to modernise the schools, the study findings also confirmed the tensions that exist in externally driven curriculum innovations. It emerged clearly that despite the clarity of purpose and the development agenda of the TP in this phase, the teachers and school heads felt disempowered by the prescriptive nature of the curriculum innovation. The curriculum innovation failed to get institutionalised. The second phase which started in 2010 adopted a different approach, a bottom-up or school-based model, which gave schools more

autonomy in the implementation of the TP (Macdonald, 2003). My study findings confirmed the benefits of adopting a school-based approach in curriculum innovation implementation. The findings highlighted important issues that the policy-makers should be encouraged to reflect on in terms of curriculum innovation implementation. For instance, despite the huge sums of money invested in the project, it became clear that without stakeholder participation, effective planning, allocation of adequate resources including human resources and systematic monitoring and evaluation of the project, it is difficult to achieve the set goals.

Stakeholder participation

My study revealed that one of the main problems that stifled the effective implementation of the TP, in particular, in the first phase, was lack of stakeholder participation. The school heads, teachers and students were not fully aware of the aspirations of the TP and how these were supposed to be achieved because they were not involved in the curriculum development process from the outset. There were some concerns regarding the use of new technologies such as electronic books and internet in schools as this was observed as a threat to some of the country's religious and cultural heritage. Arguably, if all the stakeholders had been consulted from the outset, the curriculum innovation could have been received with a sense of ownership. Carless (1997) states that the top-down approach results in the failure of the innovation to take root. In the same vein, this approach is criticised for reducing individual autonomy and creativity (Fullan and Earle, 2002). Troudi and Alwan (2010) emphasise the need for stakeholders to have the sense of ownership for the curriculum innovation's successful implementation. It was, however, not a big surprise to see the Saudi Arabia Government adopting this approach as it has been known for its excessive control of the education system at all levels (Al-harbi, 2014). These issues discussed in literature resonate with the findings from my study. However, I must also acknowledge that my study findings also show some of the advances being made by the Saudi Arabia Government, for instance, the flexible approach in curriculum innovation implementation which led to the adoption of the school-based model in the second phase of the TP. In this phase, schools were given some degree of autonomy to identify their own needs and get support from the Government to address their felt needs. The study findings resonated with literature that describes school-based curriculum development as a means to increase teacher empowerment and democratisation of the curriculum development and implementation process (Macdonald, 2003). In terms of policy formulation, it should be appreciated that the implementation

of such curriculum innovations must be viewed as a shared responsibility and, therefore, all the key stakeholders should be involved in the decision-making processes. This view is echoed by several authorities who emphasise that the government should collaborate effectively when engaging in such important undertakings (Hargreaves and Shirley, 2009; Fullan and Pomfert, 1977). On the other hand, it can be argued that the top-down approach was a plausible option given that the government needed to bring about change in a short space of time and there was no time for widespread consultations. It is also true that this approach is good in situations where there are not many qualified teachers who can handle curriculum development issues. It is also possible that the Government interpreted the curriculum as a product (Marsh, 2009) and, hence, felt that the curriculum design process could be managed by a small team of experts in the MoE (Fullan, 1991). The downside of using such experts is that they are usually remote from the reality in schools. Failure to engage teachers in the curriculum development process creates problems during the implementation stage and lack of institutionalisation of the innovation (Tsafos, 2013).

Planning

My study findings echoed discussions in literature around the importance of ensuring that every curriculum innovation initiative is planned effectively (Ely, 1999; Williams and Williams, 1994). The TP was implemented in a hurried atmosphere which did not allow the key stakeholders to have enough time to plan the curriculum change properly. The teachers and school heads had no knowledge and skills to employ the innovation in the first phase of the curriculum change process. There was a feeling among the participants that more time should have been dedicated to the planning to ensure that all key stakeholders were involved or made aware of the intended change. Planning could have helped to create the conditions necessary for the effective implementation of the TP such as the allocation of adequate financial and human resources needed by the school for training and other logistical purposes.

Evaluation and Monitoring

All the participants felt that the lack of systematic monitoring and evaluation of the TP in both phases contributed to its failure to get institutionalised. Evaluation should be part of the curriculum development process as this enables the identification of any problems in the system.

7.2.2 School level

Some of the findings from my study have significant implications for the participating public schools and perhaps some important insights can be gained for the benefit of other public schools across the country in terms of curriculum innovation implementation. The study findings reiterate the need for the schools to be in control of their curriculum development activities. The school heads should work in collaboration with the different stakeholders including teachers, students and policy-makers in the MoE to ensure that they identify and address real felt needs in their schools. My study findings indicated the importance of providing systematic continuous professional development opportunities for the teachers to ensure understanding of curriculum changes and how best to embrace the changes. Despite the deployment of technologies in the schools, the study findings indicated that without proper training it was not easy to alter the teachers' practice and beliefs about teaching and learning. As a result, the teachers continued to make use of the traditional teaching methods despite having access to technologies that could facilitate the adoption of new pedagogical approaches. In the second phase of the TP, teachers were actively involved in the curriculum development and implementation process, however, it became clear that teacher workload related issues and the lack of incentives, among other factors, made it difficult for the teachers to engage effectively with the curriculum innovation.

7.2.3 Classroom/teacher level

My study findings indicate that teachers should not be considered as mere implementers of the curriculum innovation. As argued by Marsh (2009), it is not always possible to have total control of the teachers. Although the teachers can be alienated from the curriculum design process, they still play a pivotal role in the implementation stage. Teachers can choose to implement what they want and leave out what they do not consider to be relevant (Macdonald, 2003). This was evidenced in my study when most of the teachers decided not to embrace the use of new technologies in line with the TP's aspirations in phase 1. Pinar (2011) argues that when teachers cease to be consumers and become active participants, curriculum implementation can be more effective. This is not to say, teacher involvement is the only important factor, however, it is true that teachers play a crucial role in the success of an innovation. Similarly, my study findings resonate with discussions in literature which state that students should be involved in the decision-

making processes to increase their motivation and attitude towards the implementation of the curriculum innovation (Brooker and Mcdonald, 1999; Williams and Williams, 1994). In the second phase of the TP, both teachers and students were positive about the broadening of the curriculum which enabled them to pursue activities of their choice, for example, students were able to engage in diverse extra-curriculum activities funded by the TP.

The following section examines the conclusions from my study and their implications for the existing theoretical literature.

7.3 Implications for the theoretical literature

My study findings highlighted several issues related to curriculum innovation implementation and these will be discussed in this section to show the contributions made to the literature in this area. A number of themes emerged from the study findings including the desire for change in the Saudi Arabia public schools' education system, the concept of curriculum and curriculum innovation implementation models as well as the conceptualisation of technology under the TP. In addition, the study also highlighted several factors that influence the curriculum innovation implementation which will be discussed in this section.

7.3.1 The appetite for change in Saudi Arabia public secondary schools' education system

The study of the implementation of the TP helped me to confirm some of the deep-seated problems affecting the public secondary schools in Saudi Arabia. For instance, it was quite evident in the first phase of the TP how the Government maintained a firm grip on the country's public education system and how on the other hand, the Government's progressive ideas to modernise the education system continue to be stifled by the country's conservative religious and cultural heritage. It appears that the Government continues to have significant control in the way schools are run given that curriculum innovation initiatives are centralised and funded directly by the Government. This means that the Government is in control of the school curriculum and therefore, schools cannot bring about any changes to the curriculum without the Government's approval. On one hand, the Government's involvement can be viewed in a positive way as this ensures

equal allocation of resources to schools and the standardisation of the curriculum. Although there were some problems in the way the TP was implemented, the implementation of this unprecedented curriculum innovation project shows the government's commitment to bring about positive changes to the public secondary education system. The Saudi Arabia Government's drive to use education as a potent tool for economic development has been discussed in literature. The Government is keen to diversify the economy as it realises that relying on oil is unsustainable (Lindsey, 2010). Once again, we see how education is treated as the panacea of problems in society as the Government seeks to develop students with knowledge and skills that are sensitive to the country's socio-economic needs (Courington and Zuabi, 2011). The appetite for change is apparent, however, it must be appreciated that change will not take place over night. The Government will have to continue to work in collaboration with all the relevant stakeholders to ensure that curriculum innovation implementation is a shared responsibility for its success. Literature makes it clear that if users have a sense of ownership of the innovation, they are more likely to have a greater commitment to the new curriculum innovation (Brundrett and Duncan, 2015; Sergiovanni, 2007; Marsh, 2009).

7.3.2 The concept of curriculum

My study findings are consistent with the observation that although the concept of curriculum seems straightforward, the task to define the concept is quite complex as definitions vary widely (Nelson et al., 1992). I noticed that the teachers and school heads in my study had different views about the concept of curriculum, with some teachers defining curriculum as an equivalence of textbooks. They had a narrow view of curriculum, interpreting it as content that is to be transferred from the books to the students in a didactic manner (Hosp et al., 2007; Stenhouse, 1975). Yet, similarly to the western view of the curriculum, the Tatweer project had a much broader view of the curriculum which apart from the content in textbooks also included the teaching methods and other learning opportunities such as the provision of extra-curriculum activities (Tatweer, 2010). The TP was designed around this broad framework of the concept of curriculum and it appears that this constituted a problem for the teachers. The TP was student-focused as opposed to the teacher-centred approach the teachers were familiar with, and this meant that the teachers in schools were literally meant to undergo a paradigm shift in their teaching practice as they had to promote active learning as opposed

to rote learning. As reflected in literature, my study confirmed that educators either have a narrow or broad view of the curriculum (Mckernan, 2008) and that the way teachers conceptualise the curriculum is correlated with the way they implement the curriculum (Hoover and Patton, 2005). In this case, it can be argued that the teachers' limited view of the curriculum might have limited the TP implementation in both phases. The teachers' limited view of the curriculum underlined their thinking about teaching practice which was predominantly teacher-focused. This finding from my study appears to show some problems related to the way teachers are trained in Saudi Arabia, and, therefore makes it necessary to interrogate the pre-service teacher training curriculum in the country.

7.3.3 Curriculum innovation implementation models

My study findings reiterated the discussions in literature regarding the tensions that exist when curriculum innovations are externally-driven and the benefits of bottom-up approach in curriculum innovation implementation. There was a big difference in the way stakeholders including school heads and teachers responded to the TP in phase 1 and the way they responded to the TP in phase 2. As highlighted earlier, phase 1 employed a top-down approach, also referred to as the 'teacher-proof' model whereas in phase 2, a bottom-up or school-based approach was used (Macdonald, 2003). The stakeholders had different perceptions about the two phases and this confirms what is in literature. According to Alnarhdi (2014), the approach used in a curriculum innovation can affect the way the stakeholders respond to it. In phase 1, both teachers and the school heads were not engaged with the curriculum innovation design process from the outset, hence, there was no sense of ownership. This resonates with the observations made in literature that without the sense of ownership it is difficult for the teachers and school heads to be committed to the new curriculum innovation (Brundrett and Duncan, 2015; Sergiovanni, 2007). In the same vein, Marsh (2009) emphasises that negotiation with the involved parties is critical for the success of a curriculum innovation implementation. This, therefore, shows the importance of adopting what Stenhouse (1975) calls the process model when implementing a curriculum innovation.

7.3.4 The concept of technology and technology use in schools

My study findings revealed that the first phase of the TP focused on deploying new technologies in schools with a view to develop smart schools comparable with schools in other developed countries (Tatweer, 2010). It emerged from my study that the TP wanted to bring about changes in the way schools delivered their teaching, that is, technology use was expected to bring about a change in the teaching philosophy ensuring that teachers would use technology to facilitate student-centred learning opportunities. When talking to the teachers and school heads about technology use in teaching and learning, it was clear that they conceptualised technology as hardware, software, internet and other digital media available in the school under the TP. This resonated with the discussions in literature where it has been shown that the concept of technology is not a neutral word as this is defined differently depending on people's perspectives and context (Earle, 2002). Although the TP aspired to see some pedagogical applications of technology in schools, it did not appear as if the school teachers and heads understood the pedagogical dimension clearly. As will be discussed in the subsequent sections, there were other factors that affected the use of technology in schools, however, my study findings resonated with literature showing that, access to hardware, software and other digital media does not guarantee integration of the technology in teaching and learning contexts (Wozney et al., 2006; Cuban, 2003). For the technology to be embraced in teaching and learning contexts, it is vitally important to ensure that teachers are provided with adequate technical and pedagogical support. As argued by Groff and Mouza (2008), it is necessary to embrace technology in teaching and learning contexts in order to enhance students' learning experience.

7.3.5 Factors affecting the curriculum innovation implementation

The study findings echo the observation made by various authorities who assert that curriculum innovation is not an event but a process that is influenced by several factors (Erss, 2014; Marsh, 2009; Fullan, 1991). Clearly, my study helped me to appreciate that curriculum innovation is not a linear process but a process where a matrix of factors come into play. In general, the implementation of the TP was affected by various factors highlighted in literature, so in a way, my study reinforces the discussions in literature around factors affecting curriculum innovation implementation. However, I feel that the conservative religious and cultural heritage in Saudi Arabia is distinctive to the way

culture has been discussed in previous literature, especially, in western literature where religious beliefs do not appear to interfere strongly with the public education system. The factors discussed below are important if a curriculum innovation is to get institutionalised.

(i). **Communication:** My study findings are consistent with observations in literature about the role of ensuring effective communication in curriculum innovation implementation. All the participants reiterated the lack of an effective communication system as one of the factors that stifled the implementation of the TP in both phase one and phase 2. For instance, in phase 1, teachers and school heads indicated that they were not clear about how the TP was to work in schools. This meant that these primary implementers were not given the full details about the TP, yet, they were expected to implement it successfully. Similarly, in phase 2, some communication problems were cited within the Tatweer Company and between the Tatweer Units (TU) and the participating schools. According to Ely (1999), communication is one of the important conditions for successful implementation. The same views are echoed by Lambert (2002) stating that effective implementation of a curriculum innovation should be a shared responsibility, hence, the shared goals must be communicated among all the stakeholders. Similarly, Atawy (2004) states that all the stakeholders should be aware of what the innovation involves, which is an aspect that was missed in the implementation of the TP.

(ii). **Planning:** As discussed earlier, the TP was implemented in a hurried atmosphere, which did not allow the key stakeholders to have enough time to plan the curriculum change properly. The teachers and school heads had no knowledge and skills to employ the innovation in the first phase of the curriculum change process. There was a feeling among the participants that more time should have been dedicated to the planning to ensure that all key stakeholders were involved or made aware of the intended change. This finding further buttresses discussions in literature where it has been shown that lack of adequate planning is a barrier to curriculum innovation implementation (Brunderett and Duncan, 2015; Parson, 1977). In the same vein, Williams and Williams (1994) reiterate the importance of planning stating that effective planning should anticipate and put in place mechanisms to deal with possible problems and challenges, and this was not possible in the TP.

(iii). **Leadership:** My study confirms the significant role of ensuring that sound leadership is in place for the effective implementation of a curriculum innovation (Fullan, 2006). The participants revealed that the Tatweer team in the MoE was composed of

people who had no secondary school work experience, and this might have been one of the reasons why in phase 1 the TP failed to address what schools considered to be important to them. For the success of a curriculum innovation, it is important for the leaders to be able to provide support to the primary implementers. This was particularly important during phase 1 where the TP was primarily externally driven. The Tatweer team did not provide the needed support in schools and consequently, it was difficult for the teachers and school heads to implement the innovation successfully. Literature makes it clear that sound leadership is a crucial factor for the effective implementation of educational change initiatives. My study findings confirm the notion that it is difficult to achieve success if there is a weakness in the leadership (Chaudhary, 2015). For the success of the TP, the Tatweer project team needed to be knowledgeable (DeMatthews, 2014) and to ensure that they communicated effectively with school heads (Sergiovanni, 2007) for the school heads to be empowered and to exhibit leadership in the project implementation in their respective schools. In turn, the school heads were supposed to encourage and empower the teachers to take leading roles in the implementation of the TP. In a way, my study indicates the need for the promotion of distributed forms of leadership (Brundrett and Duncan, 2015). The different stakeholders were supposed to be involved in the decision-making process to cultivate strong commitment to the organisational goals (Pepper, 2010). If teachers and school heads work collaboratively to create a conducive learning environment in the school, this can in turn, lead to student success.

(iv). **Monitoring and evaluation:** One major contribution from my study is the need to incorporate monitoring and evaluation in the curriculum innovation implementation process. Evaluation should be part of the curriculum development process as this enables the identification of any problems in the system. All the participants felt that the lack of systematic monitoring and evaluation of the TP in both phases contributed to its failure to get institutionalised. Teachers and students felt that the TP had failed to take advantage of their feedback, which could have been useful for its success.

(v). **Teachers' attitudes:** There is evidence in literature that the attitudes of the different stakeholders such as teachers are important for the success or failure of a curriculum innovation. Callister and Dunne (1992) contend that if the teachers are not very positive about the change, they may either use it badly or avoid it. Zhao et al. (2002) indicate that if the innovation implies a big change of practice, teachers may avoid it. It was believed that the implementation of the TP was affected by the negative attitude portrayed by some of the teachers towards the use of new technologies. Despite the emphasis by the TP to

encourage the use of new technologies including the electronic books, some of the teachers opted for the traditional methods. Possibly, this problem could have been dealt with if teachers had been prepared adequately for the use of new technologies. Their resistance was also linked to cultural and religious conservatism which is discussed separately in the subsequent paragraphs. This resonates with earlier findings by Kelly (1990) who observed that if teachers get involved from the outset; this could prepare them for the change and help to inculcate the sense of ownership of the innovation, which is vital for its success.

(vi). **Teachers' workload and incentives:** The implementation of the TP, particularly, in phase two; brought extra responsibilities to the teachers and school heads. For example, some of the teachers were to become 'first teachers' and to be part of 'Excellence teams' to provide guidance and support to their fellow colleagues. These extra responsibilities were, however, unaccompanied by any incentives such as salary increase or allowances. This did not go down well with the teachers and some teachers opted to leave the TSS to work in schools that were not part of the pilot. It was an oversight on the part of the TP not to avail some incentives to motivate staff in schools. This finding from my study is consistent with literature. For instance, Ely (1999) highlights incentives as one of the conditions for the success of a curriculum innovation. In the same vein, Anderson et al. (2011) and Wilson (2010) argue that lack of incentives constitutes an impediment in the implementation of curriculum innovations in education contexts.

(vii). **Funding and staffing issues:** The TP is reported to be one of the biggest government-led curriculum change projects in the country, however, there were some concerns regarding lack of funding. Apparently, there were not enough funds to hire staff to work in the Tatweer Company as well as to complement the number of teaching staff in schools. According to the participants, it was difficult for the Tatweer Company to provide all the support needed by the schools due to staff shortages in the TU. Williams and Williams (1994) indicate that there should be adequate funds to support the changes, for example, to provide training workshops and other logistical issues that need financial stability should be catered for in the budget.

(viii). **Training opportunities:** My study findings reiterated the significant role of providing adequate training opportunities to the implementers of the curriculum innovation. Harvey and Holland (2011) state that training is important and crucial in terms of ensuring that teachers can help students. One of the factors that militated against the effective implementation of the TP was inadequate training opportunities. It was

pointed out that during phase one; teachers were given limited training on the use of new technologies. Similarly, during phase two, teachers and school heads commented that training was provided, however, it was inadequate. The participants needed regular training opportunities to ensure that they understood how to implement the TP. Most of the teachers attributed their failure to use the new technologies to inadequate training. The TU adopted the 'Train the Trainer' model but this did not produce the desired results as most of the trained teachers failed to find time to train their colleagues in schools. Given the aspirations of the TP, which meant a paradigm shift in terms of the approach to teaching, the teachers needed an intensive training prior to their participation in the TP. For instance, the teachers were used to promoting rote learning and they were now supposed to embrace active learning approaches to ensure that students would become actively involved in their learning to develop attributes, such as critical thinking and creativity (Alnefaie, 2016). Without undergoing adequate training, this proved to be an uphill task for the teachers. Lindsey (2010) reiterated that lack of creativity and critical thinking was one of the deep-seated problems in the country's education system, hence, the need for training.

The deployment of new technologies in the Tatweer schools remains as one of the key features of the TP in phase one. This was meant to revolutionise the approach to teaching and learning in the schools with teachers expected to embrace some innovative pedagogies to promote active learning. The key technologies include use of laptops, smart boards, projectors, electronic books and access to internet by both students and teachers. The participants indicated that despite the availability of these different technologies, the lack of pedagogical and technical support in schools resulted in most of the teachers failing to take advantage of these technologies in their teaching. There was a need for learning technologists to be deployed in schools to provide ongoing support to teachers and to ensure that broken technologies were repaired for their continued use. My study findings are consistent with observations made by Callister and Dunne (1992) that if the teachers do not know how to use the tools, they will not use them. Similarly, Groff and Mouza assert that not every teacher is conversant with technology-use. Clearly, the need for ongoing pedagogical and technical support in schools seeking to harness new technologies cannot be overemphasised.

(ix). **Resistance to change:** It was shown that in some cases, teachers were unwilling to accept the changes brought up by the TP. The school heads and students pointed out that some of the teachers were not prepared to learn and embrace changes such as the use of new technologies. They found the introduction of the TP very disruptive to their usual

way of working in schools choosing to adhere to their traditional way of doing things. This resonates with earlier findings by Zhao et al. (2002) who concluded that several factors affect the implementation of educational innovations and among these include factors associated with the teacher and factors inherent to the technology itself. They argue that teachers may find using new technologies distressing and therefore, choose to adhere to the traditional way of executing their job.

(x). **Socio-cultural factors:** The findings from my study also confirmed that curriculum innovation such as the TP could be stifled by various factors including socio-cultural factors (Alamry and Alfawzani, 1997; Qian and Zhang, 2011). The participants made it clear that the implementation of the TP was affected to some extent by some socio-cultural factors. It is vitally important to understand the socio-cultural milieu in which the curriculum innovation is going to be implemented. Saudi Arabia is a very religious country, and this was manifested in the implementation of the TP with some religious leaders opposing the use of new technologies stating that this was a potential cause of concern to the integrity of religious and cultural values. Some of the teachers were unwilling to use the electronic books as they feared that students would be corrupted by accessing other unacceptable materials online. On the other hand, the design of books by foreign companies was met with resistance due to religious and cultural conservatism (Lindsey, 2010). There were fears that the books would contain some materials that were incompatible with the people's culture. This finding resonated with observations made by Zhao et al. (2002) who found out that cultural factors can be an impediment in the implementation of educational innovations.

Overall, curriculum change process is influenced by many factors that form a system of variables that interact with each other over time. The effectiveness of the implementation process can be reduced if some of the factors are working against implementation. If most of the factors are supporting implementation, the more effective the process can become. My study findings emphasised the need to ensure stakeholder engagement, provision of continuous professional development opportunities and adequate funding as some of the key factors vital for the success of curriculum innovation implementation. The following section discusses the limitations of my study.

7.4 Limitations of the study

As can be seen in the previous section, this study was able to generate answers to the main research questions, making a significant contribution to our understanding of the factors affecting the implementation of curriculum innovation in Saudi Arabia context, in particular, the TP. However, like any other study, the study has got some limitations. Given the limited time of study, only five schools were selected for the study and these schools were all selected from the same city. The situation in other schools in the same city and elsewhere across the country might have been different. As argued by Jones (2006) "the relatively small sample of schools and participants and the researcher's subjective perspective of reporting and interpreting the findings preclude any conclusions of a general nature to be drawn" (p.170). However, the study provides some important insights into what might have been experienced in other Tatweer schools across the country.

One other important limitation of the study is the fact that the study focused on the implementation of the TP in selected male schools only. Given that the schools are segregated on gender lines, it could have been useful to study how the TP was implemented in the female schools. This might have provided some rich data to understand any gender-related issues within the public schools in Saudi Arabia. This study, therefore, did not manage to shed any light on how the female schools are managed in terms of the implementation of a curriculum innovation such as the TP. Other studies on Saudi Arabia have indicated some gender inequalities (Aljughaiman and Grigorenko, 2013; Courington and Zuabi, 2011; Baki, 2004). It is therefore, useful to establish if there were any gender-related discrepancies in the implementation of the TP.

The study focused on understanding the perspectives of the multi-stakeholders including students, teachers and school heads about the implementation of the TP. The views of these stakeholders helped to provide thick descriptions of the factors that affected the implementation of the TP in the participating schools in general. This study did not provide any direct comparisons among the five schools. It could have been interesting to compare the responses of the participants from the different schools to compare and contrast the implementation of the TP in the different schools.

The data collection process involved working with students who did not experience the first phase of the TP, so they could not comment on the TP phase one experiences. The study involved interviewing four policy-makers from the Ministry of Education who volunteered to participate in the study. As I indicated in chapter 1, I was an insider

researcher given that I also work in the Ministry of Education. Although I adhered to the research ethics to ensure that the study would not be influenced by my position as an insider, it is possible that some of the participants from the Ministry of Education might have told me what they thought I wanted to hear from them during the interviews. Some of the key officers in the Ministry of Education refused to take part in my study for various reasons including pressure of work and/or fear of contravening the secrecy of information regulations. This might have affected the quality of information generated from the Ministry of Education policy-makers.

The study did not include the views and experiences of other stakeholders such as parents. Parents constitute an important group and they may have added another dimension to our understanding of the TP implementation in schools. In addition, during the data collection process, interviews were conducted in Arabic language and then transcribed and translated into English language. I did the translation myself in keeping with the participants' confidentiality and anonymity and given that the English language is my second language, some meaning might have been lost, transformed or taken out of context in the data analysis process.

From a methodological perspective, this study made use of semi-structured interviews and focus group discussions to generate data. Although these methods helped to generate data enough to answer the main research questions, it can be argued that use of other methods such as documentary analysis and analysis of academic results from the participating schools could have enriched the data by providing other insights into the impact of the TP on other aspects of school life such as the students' academic performance.

Lastly but not least, this study only focused on understanding the implementation of the TP. It was, therefore, not possible to understand all the different aspects of the TP, for example, how the project was designed by the Ministry of Education. This and other areas of interest could be explored in other studies as elaborated in the following section.

7.5 Implications for further research

Although my study has been conducted on a small-scale, the findings can provide a good starting point for further research in the area of curriculum innovation implementation not only in Saudi Arabia but in other countries as well. However, in the Saudi Arabian context, this study provides important insights that can inspire other researchers in the

country to conduct more studies to evaluate the government projects and help to inform policy formulation. Some of the areas that can be studied in future include:

- The Ministry of Education might find it worthwhile to conduct a study like mine but on a large scale to allow for broad generalisations to be made. Such an evaluative study of the Tatweer project can help to document all the perceived benefits of the project, problems and challenges faced and such information could be used to guide the design and implementation of future national education projects.

- More comprehensive studies might focus on comparisons of experiences of different stakeholders from different schools, for instance, unlike my study, future studies may want to compare directly, the responses by the teachers, school heads and students from different schools.

- Future studies can also focus on understanding the implementation of the TP in female schools and possibly, comparisons can be made to evaluate any gender-related discrepancies in school management and curriculum innovation implementation in the country.

- As indicated earlier, this study might have been constrained by the use of two main methods namely: semi-structured interviews and focus-group discussions. For a more comprehensive view of the implementation and impact of the TP, future studies might benefit from employing more data generating methods (e.g. documentary analysis of school reports and examination results analysis) as well as data analysis methods which might include statistical analysis.

- Other researchers might want to focus on other aspects of the TP that were not covered in my study. For example, it might be worthwhile exploring the curriculum design process to find out who was involved and what problems and challenges emerged in the process.

- One other line for possible research that emerged from my study is pre-service teacher education in Saudi Arabia. It is important to explore the teacher education curriculum in order to identify how teachers can be prepared to deal with curriculum change processes in the country.

7.6. Personal reflections

Upon reflection, I would describe my doctoral journey in different ways. On one hand, it has been an exciting ride as I found myself outside my home country and with an excellent opportunity to meet new people in my field of study and expand my professional network as well as my general worldview. I attended seminars, symposia and conferences within and outside UK and this made a huge difference to my appreciation and understanding of the research process in education contexts. On the other hand, the doctoral experience was quite challenging, in particular, having to study at such a high level using English language as a second language and to cope with the demands of an education system that is different from that of my home country. I had to adapt and get used to being a doctoral student at a UK University. Some of the challenges involved being able to work independently most of the time and to engage with my research work in a critical manner and to express all my ideas clearly in English following the contemporary academic writing skills. The meetings I held with my supervisor during the course of the study and other informal conversations with fellow PhD colleagues helped me to develop a set of skills that were vital for taking me through the doctoral journey. I also engaged proofreaders to ensure that my ideas were expressed clearly. The journey has also been personally rewarding. It has made an incredible impact on my professional development as a researcher. For instance, I have been able to develop a deeper understanding of the qualitative research paradigm which gives me confidence to design and implement research projects in educational contexts. Prior to conducting my study, I used to consider any published texts as sacrosanct, however, my doctoral experience has taught me to engage with literature critically and this will be an asset in my role as a policy-maker in the Ministry of Education. I developed an understanding of the value of conducting education research ethically and to be aware of how to manage power relations in research. Lastly but not least, my doctoral journey helped me to expand my knowledge in the field of curriculum implementation and this boosted my confidence to participate and advise colleagues working on future curriculum change projects in the Ministry of Education in Saudi Arabia or beyond.

I am looking forward to making significant contributions to the education landscape in my home country. There are some fundamental areas where I can contribute to as a policymaker in the Ministry of Education. Of course, my study focused mainly on the implementation of the Tatweer Project but apart from developing a deep understanding

of curriculum implementation, my doctoral experience opened a number of other things that I could focus on in terms of developing my country's education system. For instance, there is need to focus on developing research work in the education field to ensure that policy-making is guided by research-based evidence. The Sheffield University's Doctoral Development Programme helped me to gain important research skills including data analysis, academic writing, networking which are important transferable skills in my work context in the Ministry of Education. I managed to develop confidence and belief in myself that I think will be an asset as I continue to grow professionally and academically. I feel that I can advise colleagues at work more effectively and can offer well-measured advice to those working on implementing innovative projects such as the Tatweer Project in future. Our country's economy is growing, and it is generally understood that education is the cornerstone for success. Hence, we will continue to have more investments in the education sector and this makes it imperative for me to prepare to work closely with colleagues in and outside the Ministry of Education providing effective leadership. I now understand that for the effective implementation of educational projects, a number of factors come into play and, therefore, careful planning, designing and implementation strategies should be considered. It is significantly important to ensure that all the key stakeholders are involved right from the onset of the project. In the case of the TP, this did not happen and the project suffered at the implementation stage. My doctoral journey has helped me to appreciate the importance of collaborative partnerships, effective communication, availability and provision of technical support, among other factors that are critical for effective curriculum innovation implementation. In a nutshell, the time spent on this educational programme has been worthwhile and I am confident that the knowledge and skills I have developed will make a big difference in my personal and professional life.

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APPENDICES

Appendix A. Number of male and female students in schools in Saudi Arabia in 2017

Administrative Area	Total			الجملة			Non-Saudi	غير سعودي		Saudi	سعودي		المنطقة الادارية
	Total	Females	Males	جملة	اناث	ذكور	Total	Females	Males	جملة	اناث	ذكور	
Al-Riyadh	8002100	3267091	4735009	3422530	1062562	2359968	4579570	2204529	2375041	الرياض			
Makkah Al-Mokarramah	8325304	3593383	4731921	3884733	1405337	2479396	4440571	2188046	2252525	مكة المكرمة			
Al-Madinah Al-Monawarah	2080436	915813	1164623	727334	242038	485296	1353102	673775	679327	المدينة المنورة			
Al-Qaseem	1387996	588092	799904	396964	98891	298073	991032	489201	501831	القصيم			
Eastern Region	4780619	1913869	2866750	1692932	433660	1259272	3087687	1480209	1607478	الشرقية			
Aseer	2164172	981020	1183152	444222	111668	332554	1719950	869352	850598	عسير			
Tabouk	890922	390667	500255	180223	45050	135173	710699	345617	365082	تبوك			
Hail	684619	307066	377553	155607	39953	115654	529012	267113	261899	حائل			
Northern Borders	359235	161685	197550	73749	19771	53978	285486	141914	143572	الحدود الشمالية			
Jazan	1533680	703802	829878	346396	117167	229229	1187284	586635	600649	جازان			
Najran	569332	253868	315464	138621	39916	98705	430711	213952	216759	نجران			
Al-Baha	466384	217366	249018	90180	22294	67886	376204	195072	181132	الباحة			
Al-Jouf	497509	214622	282887	123847	30717	93130	373662	183905	189757	الجوف			
Total	31742308	13508344	18233964	11677338	3669024	8008314	20064970	9839320	10225650	الجملة			

Appendix B. Summary Statistics of Male andFemale Education in MoE

عدد الطلاب حسب الصفوف في مراحل التعليم العام

Enrollment in General Education by Stage, Supervising Authority & Grade

الجهة المشرفة Sup. Auth.	الجنس Gender	المرحلة الإبتدائية Elementray Stage							المرحلة المتوسطة Intermediate Stage			
		صف أول Grade I	صف ثاني Grade II	صف ثالث Grade III	صف رابع Grade IV	صف خامس Grade V	صف سادس Grade VI	جملة Total	الجنس Gender	صف أول Grade I	صف ثاني Grade II	صف ثالث Grade III	جملة Total
وزارة التربية والتعليم M.O.E	ذكور Male	209,318	199,040	195,585	189,818	187,936	186,394	1,168,091	ذكور Male	206,808	192,822	188,540	588,170
	إناث Female	225,237	210,610	204,156	197,268	191,866	190,359	1,219,496	إناث Female	210,776	195,604	191,206	597,586
التعليم الأهلي Private Edu.	ذكور Male	38,703	34,348	30,987	27,770	24,894	22,878	179,580	ذكور Male	24,577	22,411	22,437	69,425
	إناث Female	22,129	18,508	17,252	15,322	13,848	13,281	100,340	إناث Female	12,486	11,356	11,548	35,390
المعاهد العلمية Scientific Inst.	ذكور Male	—	—	—	—	—	—	—	ذكور Male	2,683	2,649	2,538	7,870
الجامعة الإسلامية Islamic Univ.	ذكور Male	—	—	—	—	—	—	—	ذكور Male	237	241	247	725
المجموع Grand Total	ذكور Male	248,021	233,388	226,572	217,588	212,830	209,272	1,347,671	ذكور Male	234,305	216,123	213,762	666,190
	إناث Female	247,366	229,118	221,408	212,590	205,714	203,640	1,319,836	إناث Female	223,262	206,960	202,754	632,976
	جملة	495,387	462,506	447,980	430,178	418,544	412,912	2,667,507	جملة	915,134	850,166	833,032	2,598,332

المرحلة الثانوية Secondary Stage

الجهة المشرفة Sup. Auth.	الجنس Gender	صف أول Grade I	صف ثاني Grade II				صف ثالث Grade III				مجموع Grand Total
			شرعي/أدبي Rel./Art.	إداري A.S.	طبيعيا/ علمي N.S./Sci.	جملة Total	شرعي/أدبي Rel./Art.	إداري A.S.	طبيعيا/ علمي N.S./Sci.	جملة Total	
وزارة التربية والتعليم M.O.E	ذكور Male	121,569	34,986	287	92,401	127,674	36,100	422	86,548	123,070	372,313
	إناث Female	133,863	74,548	0	61,947	136,495	71,549	0	60,844	132,393	402,751
التعليم الأهلي Private Edu.	ذكور Male	30,312	5,203	20	41,409	46,632	7,798	30	50,139	57,967	134,911
	إناث Female	11,497	4,636	0	13,877	18,513	8,080	0	18,842	26,922	56,932
المعاهد العلمية Scientific Inst.	ذكور Male	2,891	2,599	—	—	2,599	2,398	—	—	2,398	7,888
الجامعة الإسلامية Islamic Univ.	ذكور Male	323	301	—	—	301	336	—	—	336	960
جملة Total	ذكور Male	155,095	43,089	307	133,810	177,206	46,632	452	136,687	183,771	516,072
	إناث Female	145,360	79,184	0	75,824	155,008	79,629	0	79,686	159,315	459,683
	جملة	300,455	122,273	307	209,634	332,214	126,261	452	216,373	343,086	975,755

الطلاب المستجدون في الصف الأول في مراحل التعليم العام

New Entrants to the First Grade in General Education

المرحلة Stage	الجنس Gender	الجنسية Nationality	الجهة المشرفة Supervising Auth					
			وزارة التربية والتعليم M.O.E	المعاهد العلمية Scientific Inst.	الجامعة الإسلامية Islamic Univ.	التعليم الأهلي Private Edu.	المجموع Total	
الإبتدائية Elementary	ذكور Male	جملة Total	197,807	—	—	38,193	236,000	
	إناث Female	سعودي Saudi	166,571	—	—	33,132	199,703	
		جملة Total	212,946	—	—	21,842	234,788	
		سعودي Saudi	178,998	—	—	18,452	197,450	
المتوسطة Intermediate	ذكور Male	جملة Total	201,971	2,609	237	24,349	229,166	
		سعودي Saudi	172,764	2,289	105	21,387	196,545	
	إناث Female	جملة Total	207,703	—	—	12,425	220,128	
		سعودي Saudi	176,551	—	—	10,643	187,194	
ثانوي عام Secondary	ذكور Male	جملة Total	171,521	2,759	323	35,238	209,841	
		سعودي Saudi	149,083	2,484	165	31,451	183,183	
	إناث Female	جملة Total	179,495	—	—	15,882	195,377	
		سعودي Saudi	155,668	—	—	13,775	169,443	

المرحلة الثانوية نظام المقررات Secondary Stage Develop

المرحلة Stage	الجهة المشرفة Sup. Auth	المستوى الأول	المستوى الثاني	المستوى الثالث	المستوى الرابع	المستوى الخامس	المستوى السادس	مجموع
	وزارة التعليم (بنين) M.O.E Boys	64,115	855	37,122	5,549	20,616	7,589	135,846
	وزارة التعليم (بنات) M.O.E Gris	53,042	245	38,090	1,608	22,196	3,642	118,823
	التعليم الأهلي (بنين) Private Edu	5,829	84	4,130	216	3,921	435	14,615
	التعليم الأهلي (بنات) Private Edu Girls	4,689	98	4,507	91	3,556	518	13,459
	جملة Total	127,675	1,282	83,849	7,464	50,289	12,184	282,743

خلاصة إحصائية عن التعليم في الجهات التعليمية الأخرى

Summary Statistics on Supervision of other Authorities

المرحلة stage	الجهة المشرفة Sup. Auth	مدارس Schools	فصول Classes	طلاب Students	معلمون Teachers
رياض أطفال Kindergarten	وزارة الشؤون الاجتماعية Min. of Social Affairs	124	787	13,786	1,018
متوسط Intermediate	المعاهد العلمية Scientific Inst	66	371	7,870	950
	الجامعة الإسلامية Islamic Univ	3	24	725	91
ثانوي Secondary	المعاهد العلمية Scientific Inst	65	382	7,888	866
	الجامعة الإسلامية Islamic Univ	3	31	960	107
المجموع العام Grand Total		261	1,595	31,229	3,032

خلاصة إحصائية عن تعليم البنين والبنات في وزارة التعليم

Summary Statistics on Male & Female Education In M.O.E

المرحلة Stage	الجنس Gender	المدارس Schools	الفصول/ قاعات Class-rooms	الطلاب Students		المستجدون New Entrance Students		شاغلو الوظائف التعليمية Academic Staff		الإداريون المساعدون Administrative Staff	
				سعودي Sau	جملة Total	سعودي Sau	جملة Total	سعودي Sau	جملة Total	سعودي Sau	جملة Total
رياض أطفال Kindergarten	مشترك Boys & Girls	1,573	6,566	121,107	123,630	7,699	7,936	11,637	11,645	5,997	6,011
ابتدائي Elementary	ذكور Male	6,294	58,689	1,001,951	1,168,091	166,571	197,807	99,430	99,519	10,271	10,297
	إناث Female	6,239	57,515	1,040,738	1,219,496	178,998	212,946	116,211	116,240	38,265	38,314
	جملة Total	12,533	116,204	2,042,689	2,387,587	345,569	410,753	215,641	215,759	48,536	48,611
متوسط Intermediate	ذكور Male	3,827	23,802	506,259	588,170	172,764	201,971	53,100	53,569	4,491	4,502
	إناث Female	3,612	22,338	511,111	597,586	176,551	207,703	61,085	61,088	20,105	20,152
	جملة Total	7,439	46,140	1,017,370	1,185,756	349,315	409,674	114,185	114,657	24,596	24,654
ثانوي عام Secondary	ذكور Male	2,083	12,629	328,458	372,313	103,286	117,415	32,896	33,818	2,805	2,813
	إناث Female	2,177	14,824	345,356	402,751	110,526	129,415	47,034	47,037	14,383	14,397
	جملة Total	4,260	27,453	673,814	775,064	213,812	246,830	79,930	80,855	17,188	17,210
ثانوي مقررات Devlop Secondary	ذكور Male	470	6,790	115,645	135,846	45,797	54,106	12,160	12,374	776	783
	إناث Female	424	4,920	108,594	118,823	45,142	50,080	11,098	11,099	3,150	3,175
	جملة Total	894	11,710	224,239	254,669	90,939	104,186	23,258	23,473	3,926	3,958
المجموع العام Grand Total		26,699	#####	#######	#######	#######	#######	444,651	446,388	100,243	#####
معاهد وبرامج وفصول التربية الخاصة Institutes, programs and special education classes	ذكور Male	1,519	4,775	15,333	16,785	3,560	3,875	7,241	7,246	191	192
	إناث Female	750	2,236	9,791	10,654	2,144	2,371	4,110	4,127	569	570
	جملة Total	2,269	7,011	25,124	27,439	5,704	6,246	11,351	11,373	760	762
مراكز محو الأمية وتعليم الكبار Literacy centers and adult education	ذكور Male	791	1,866	11,372	18,367	3,639	6,788	0	0	0	0
	إناث Female	1,340	3,791	31,935	40,539	14,594	18,475	1,596	1,601	362	362
	جملة Total	2,131	5,657	43,307	58,906	18,233	25,263	1,596	1,601	362	362

التطور الكمي في خمس سنوات في مراحل التعليم العام

Five years Quantitative Development in General Education

العام الدراسي Academic Year	المرحلة Stage	مدارس Schools		فصول Classes		طلاب Students		معلمون Teachers	
		ذكور M	إناث F	ذكور M	إناث F	ذكور M	إناث F	ذكور M	إناث F
1432/1431 (2011/2010)	ابتدائي Elementary	6,784	6,844	66,132	61,624	1,273,119	1,240,696	113,821	114,504
	متوسط Intermediate	4,179	3,820	26,616	22,599	636,693	561,721	62,306	60,174
	ثانوي Secondary	2,669	2,638	24,900	21,453	669,428	536,920	53,045	56,760
1433/1432 (2012/2011)	ابتدائي Elementary	6,847	6,889	69,433	65,142	1,285,270	1,245,474	115,319	117,134
	متوسط Intermediate	4,326	3,915	27,188	23,245	636,354	575,675	62,770	62,585
	ثانوي Secondary	2,879	2,718	25,504	22,851	681,085	545,120	53,935	60,690
1434/1433 (2013/2012)	ابتدائي Elementary	6,872	6,929	67,809	63,837	1,304,068	1,266,266	115,853	131,258
	متوسط Intermediate	4,373	3,952	27,307	23,512	639,933	590,644	62,267	65,877
	ثانوي Secondary	2,954	2,771	25,600	23,631	670,198	543,886	54,672	65,267
1435/1434 (2014/2013)	ابتدائي Elementary	6,892	6,940	67,568	63,437	1,328,418	1,295,247	116,830	130,723
	متوسط Intermediate	4,421	4,007	27,226	23,732	644,029	605,362	61,624	66,028
	ثانوي Secondary	3,072	2,898	27,098	25,728	680,134	578,454	57,368	65,767
1436/1435 (2015/2014)	ابتدائي Elementary	6,857	6,940	67,363	64,014	1,347,671	1,319,836	115,289	128,665
	متوسط Intermediate	4,431	4,035	27,741	24,305	666,190	632,976	61,076	64,904
	ثانوي Secondary	2,615	2,486	18,090	17,430	516,072	459,683	44,432	52,456
	ثانوي مقررات Devlop Secondary	525	493	7,599	5,740	150,461	132,282	13,506	12,426

Appendix C. Schools, Classrooms and Academic staff by administrative Areas and Educational Districts 2013/2014 in KSA (Girls)

المدارس والفصول والطلاب وشاغلات الوظائف التعليمية بالمملكة حسب المناطق التعليمية للعام الدراسي (1434/1435هـ)

Schools, Class-rooms, Students, and Academic Staff by Adminstrative Areas & Educational Districts (2013/2014) in K.S.A (Girls)

Administrative Areas	Educational Departments	Teachers معلمات								Students طالبات								Classes فصول								Schools مدارس								المنطقة الإدارية Administrative Areas	إدارة التعليم Educational Departments
		Total المصرعال	التربية الخاصة Special Ed	تعليم كبار Adult Ed. Elem	ثانوي Secondary		متوسط Intermediate	ابتدائي Elementary	رياض أطفال Kindergarten	المجموع Total	التربية الخاصة Special Ed	تعليم كبار Adult Ed Elem	ثانوي Secondary		متوسط Intermediate	ابتدائي Elementary	رياض أطفال Kindergarten	المجموع Total	التربية الخاصة Special Ed	تعليم كبار Adult Ed Elem	ثانوي Secondary		متوسط Intermediate	ابتدائي Elementary	رياض أطفال Kindergarten	المجموع Total	التربية الخاصة Special Ed	تعليم كبار Adult Ed Elem	ثانوي Secondary		متوسط Intermediate	ابتدائي Elementary	رياض أطفال Kindergarten		
					مهارات Develop	عام General Secondary							مهارات Develop	عام General Secondary							مهارات Develop	عام General Secondary							مهارات Develop	عام General Secondary						
Riyadh	Riyadh	45,802	697	7	2,067	8,349	9,986	####	4,407	523,985	2,397	5,955	####	####	#####	243,569	####	21,389	432	404	986	2,921	3,995	9,853	2,798	2,319	119	123	88	301	475	759	454	الرياض	الرياض
	Aflaj	1,107	21	25	31	180	235	538	77	7,439	44	137	374	1,097	1,712	3,315	760	505	10	19	13	64	84	266	49	110	3	8	2	14	23	43	17	الأفلاج	
	Hotah&Hriq	1,136	14	35	42	169	240	535	101	6,941	23	146	380	964	1,443	3,078	907	485	11	29	15	44	76	250	60	104	3	13	2	10	19	40	17	حوطة بني تميم والحريق	
	Kharj	4,568	80	5	162	961	1,090	1,896	374	42,042	272	391	1,587	6,886	9,137	19,937	3,832	2,030	56	50	87	286	370	949	232	282	17	16	10	41	67	99	32	الخرج	
	Dawadmi	4,659	25	1	45	1,063	1,095	2,167	263	23,451	36	411	252	4,661	5,083	10,307	2,701	1,813	15	58	14	266	327	974	159	392	8	20	4	65	91	155	49	الدوادمي	
	Alzulfi	1,136	22	14	65	192	228	482	133	8,531	50	132	621	1,106	1,745	3,456	1,421	502	15	13	28	55	85	220	86	89	6	4	4	11	16	30	18	الزلفي	
	Shaqra	1,007	22	25	40	173	207	451	89	5,771	25	114	396	814	1,229	2,396	797	363	13	12	14	48	61	172	43	84	8	5	2	11	16	29	13	شقراء	
	Afif	1,898	14	2	98	320	360	997	107	9,402	35	220	670	1,472	2,145	3,918	942	811	15	17	53	103	142	413	68	175	6	7	3	30	40	67	22	عفيف	
	AL-Ghadh	207	0	4	6	22	51	91	33	1,324	0	27	123	92	286	508	288	101	0	4	9	7	17	46	18	22	0	1	1	2	5	8	5	الغاط	
	Algowaieiah	3,031	24	6	1	533	528	1,694	245	13,688	33	349	76	2,345	3,064	6,208	1,613	1,389	30	76	3	134	177	849	120	297	5	27	1	35	55	138	36	القويعية	
	AL-majmaah	2,458	51	32	74	511	587	1,010	193	15,362	58	236	532	2,631	3,333	6,717	1,855	984	30	32	22	136	186	468	110	200	15	12	3	30	48	64	28	المجمعة	
	Wadi Dawasser	1,993	29	0	68	340	434	994	128	16,867	72	322	982	2,228	3,527	8,074	1,662	961	21	54	34	97	158	493	104	183	9	20	6	19	33	69	27	وادي الدواسر	
Total		69,002	999	156	2,699	12,813	15,041	31,144	6,150	674,803	3,045	8,440	31,783	#####	148,491	311,483	61,481	31,333	648	768	1,278	4,161	5,678	14,953	3,847	4,257	199	256	126	569	888	1,501	718	جملة	
Makkah	Makkah	14,094	193	395	678	2,497	3,195	6,194	942	173,170	573	3,266	8,659	####	42,261	78,644	####	7,282	73	246	551	1,011	1,439	3,327	635	813	21	72	32	112	181	284	111	مكة المكرمة	مكة المكرمة
	Taif	23,716	351	1	1,529	4,545	5,598	####	1,682	294,172	940	3,832	####	####	67,694	135,611	####	11,797	147	288	730	1,716	2,381	5,318	1,217	1,270	46	85	56	176	261	411	235	الطائف	
	Jeddah	13,161	160	464	485	2,717	3,125	5,616	594	123,255	413	3,091	4,314	####	28,777	57,108	6,364	5,983	85	328	186	929	1,176	2,933	346	953	23	157	14	132	208	336	83	الطائف	
	Qunfozah	3,921	63	2	121	562	863	2,077	233	30,200	101	234	1,238	5,074	6,909	13,869	2,775	1,672	42	15	45	190	284	966	130	320	24	7	6	34	72	144	33	القنفذة	
	Alaith	2,534	26	2	55	462	609	1,207	173	17,082	55	398	489	3,027	3,885	7,362	1,866	1,135	27	50	19	159	218	563	99	243	11	24	2	34	61	83	28	الليث	
Total		57,426	793	864	2,868	10,783	13,390	25,104	3,624	637,879	2,082	10,821	32,156	#####	149,526	292,594	42,736	27,869	374	927	1,531	4,005	5,498	13,107	2,427	3,599	125	345	110	488	783	1,258	490	جملة	
Madinah	Madina	14,650	151	6	633	2,765	3,699	6,502	894	161,779	402	2,670	7,655	####	37,365	75,326	####	6,646	54	164	302	935	1,332	3,205	654	824	14	52	21	115	194	315	113	المدينة المنورة	المدينة المنورة
	Alola	1,059	16	0	69	150	227	532	65	8,266	23	183	562	1,156	1,848	3,625	869	520	11	22	21	56	101	256	53	103	4	9	3	12	23	37	15	العلا	
	AL-Mahd	1,143	6	1	0	182	317	585	52	7,384	12	94	0	1,553	1,841	3,468	416	540	6	12	0	66	106	326	24	114	3	5	0	14	32	52	8	المهد	
	Yanbu	3,770	58	29	250	630	813	1,671	319	36,985	137	420	2,782	4,745	8,311	16,720	3,870	1,682	55	42	100	200	315	769	201	265	23	18	8	35	53	79	49	ينبع	
Total		20,622	231	36	952	3,727	5,056	9,290	1,330	214,414	574	3,367	10,999	35,107	49,365	99,139	15,863	9,388	126	240	423	1,257	1,854	4,556	932	1,306	44	84	32	176	302	483	185	جملة	
Qassim	Qassim	11,497	174	43	403	2,383	2,693	5,126	675	92,701	370	1,009	3,602	####	21,370	42,982	6,972	4,920	84	132	159	707	929	2,554	355	845	28	44	16	125	201	337	94	القصيم	القصيم
	Albkariah	924	25	3	5	225	179	419	68	6,748	54	219	173	1,297	1,441	2,955	609	394	20	28	19	60	64	172	31	73	6	10	1	12	12	23	9	البكيرية	
	Onaiza	2,112	41	44	172	334	455	846	220	18,944	91	209	2,423	1,747	4,320	8,005	2,149	932	30	35	93	80	167	425	102	139	7	12	8	13	25	52	22	عنيزة	
	Alruss	3,031	28	3	157	576	646	1,413	208	17,147	67	290	1,154	2,603	3,822	7,543	1,668	1,062	24	39	43	136	177	532	111	199	10	13	6	25	38	80	27	الرس	
	Almothnab	960	11	5	27	199	201	454	63	5,433	19	121	169	952	1,259	2,306	607	392	5	15	7	64	67	197	37	86	2	7	1	14	19	33	10	المذنب	
Total		18,524	279	98	764	3,717	4,174	8,258	1,234	140,973	601	1,848	7,521	22,995	32,212	63,791	12,005	7,700	163	249	321	1,047	1,404	3,880	636	1,342	53	86	32	189	295	525	162	جملة	
Shargiah	Shargiah	21,504	373	20	1,132	4,244	4,896	8,159	2,680	246,368	1,113	2,036	####	####	50,901	112,251	####	9,895	162	174	470	1,254	1,771	4,422	1,642	1,081	45	62	33	142	217	356	226	الشرقية	الشرقية
	Ahsa	9,803	285	64	572	1,973	2,342	3,620	947	110,773	683	836	5,252	####	24,193	50,827	####	4,557	101	89	207	683	868	2,055	554	552	21	33	19	79	112	196	92	الاحساء	
	Hafr Albaten	5,080	84	0	134	1,030	1,173	2,421	238	53,359	178	927	1,100	9,395	11,483	26,411	3,865	2,410	39	83	40	382	436	1,251	179	328	11	28	6	51	66	125	41	حفر الباطن	
Total		36,387	742	84	1,838	7,247	8,411	14,200	3,865	410,500	1,974	3,799	17,893	65,695	86,577	189,489	45,073	16,862	302	346	717	2,319	3,075	7,728	2,375	1,961	77	123	58	272	395	677	359	جملة	
Asseer	Asseer	14,084	230	79	404	2,663	3,191	6,771	746	117,616	447	2,121	2,919	####	25,794	57,020	8,519	6,028	105	271	150	830	1,075	3,067	530	858	28	90	10	119	181	335	95	عسير	عسير
	Bisha	5,237	58	10	129	848	1,017	2,756	419	41,227	135	339	1,065	7,057	8,712	19,216	4,703	2,638	46	31	141	317	429	1,343	331	508	22	11	7	58	116	211	83	بيشة	
	Rijal Alma'a	972	15	5	0	211	175	510	56	7,356	11	155	0	1,454	1,716	3,355	665	488	9	18	0	64	78	280	39	106	7	9	0	14	20	46	10	رجال ألمع	
	Sarat Abaida	1,279	12	0	34	214	234	709	76	8,204	17	58	219	1,040	1,663	4,536	671	570	11	8	9	58	88	325	71	122	6	3	1	15	23	49	25	سراة عبيدة	
	Mahayel	4,095	55	68	121	662	896	2,130	163	41,258	125	496	1,726	7,485	9,953	19,139	2,334	1,991	43	61	79	222	351	1,115	120	366	23	26	7	39	72	161	38	محايل عسير	
	Namas	1,097	8	1	0	271	179	534	104	6,820	16	164	0	1,507	1,454	2,638	1,041	539	9	19	0	84	77	288	62	119	5	6	0	17	25	49	17	النماص	
Total		26,764	378	163	688	4,869	5,692	13,410	1,564	222,481	751	3,333	5,929	39,339	49,292	105,904	17,933	12,254	223	408	379	1,575	2,098	6,418	1,153	2,079	91	145	25	262	437	851	268	جملة	
Hayel	Hayel	9,023	105	5	556	1,461	2,203	4,192	501	70,447	191	771	4,460	####	16,121	33,192	5,201	3,924	37	59	152	461	722	2,170	323	650	12	34	19	89	145	282	69	حائل	حائل
Tabouk	Tabouk	9,289	186	142	512	1,568	2,139	4,211	531	101,797	524	1,319	6,072	####	22,222	49,998	7,890	4,507	96	128	229	552	862	2,259	381	637	33	38	20	87	145	234	80	تبوك	تبوك
Baha	Baha	4,765	76	0	155	908	1,039	2,196	391	28,168	130	224	1,184	4,590	5,787	12,369	3,884	1,940	65	24	72	253	310	961	255	391	27	12	6	53	86	149	58	الباحة	الباحة
	Almikhwah	2,127	30	0	78	250	516	1,132	121	14,699	38	148	780	2,443	3,366	6,382	1,542	982	18	22	33	98	167	548	96	195	6	8	5	18	49	87	22	المخواة	
Total		6,892	106	0	233	1,158	1,555	3,328	512	42,867	168	372	1,964	7,033	9,153	18,751	5,426	2,922	83	46	105	351	477	1,509	351	586	33	20	11	71	135	236	80	جملة	
Hodod Shmaliah	Hodod Shmaliah	3,910	37	3	156	798	902	1,777	237	39,092	72	560	1,545	6,331	8,495	18,891	3,198	1,875	24	66	54	265	361	955	150	284	10	25	6	44	60	104	35	الحدود الشمالية	الحدود الشمالية
Jouf	Jouf	4,788	101	5	300	784	1,124	2,238	236	41,677	203	862	2,275	5,777	8,987	19,834	3,739	1,996	45	109	138	241	369	918	176	318	17	41	11	42	67	102	38	الجوف	الجوف
	Qerayyat	2,002	24	12	60	404	501	902	99	22,448	52	320	624	3,590	5,076	11,194	1,592	1,008	18	49	43	150	188	490	70	158	8	18	4	24	31	53	20	القريات	
Total		6,790	125	17	360	1,188	1,625	3,140	335	64,125	255	1,182	2,899	9,367	14,063	31,028	5,331	3,004	63	158	181	391	557	1,408	246	476	25	59	15	66	98	155	58	جملة	
Jizan	Jazan	8,825	168	15	382	1,294	2,049	4,373	544	87,176	382	2,358	4,261	####	19,090	41,853	6,889	3,647	88	154	149	394	670	1,883	309	603	29	42	17	62	144	238	71	جازان	جازان
	Sabia	6,494	62	5	167	1,035	1,490	3,294	441	64,275	164	1,385	2,165	9,886	14,366	31,177	5,132	3,095	45	138	77	349	551	1,700	235	587	21	52	12	65	131	245	61	صبيا	
Total		15,319	230	20	549	2,329	3,539	7,667	985	151,451	546	3,743	6,426	22,229	33,456	73,030	12,021	6,742	133	292	226	743	1,221	3,583	544	1,190	50	94	29	127	275	483	132	جملة	
Najran	Najran	5,488	61	13	251	798	1,177	2,944	244	63,263	138	1,019	2,635	9,260	14,003	32,546	3,662	2,767	41	106	144	303	498	1,488	187	377	14	32	10	46	77	151	47	نجران	نجران
Grand Total		285,436	4,272	1,601	12,426	52,456	64,904	######	21,112	2,834,092	10,921	40,574	######	######	632,976	1,319,836	######	######	2,313	3,793	5,740	17,430	24,305	64,014	13,552	18,744	766	1,341	493	2,486	4,035	6,940	2,683	المجموع العام	

Appendix D. Schools, Students, andAcademic Staff by Administrative Areas andEducational Districts 2013/2014 in KSA (Boys

المدارس والفصول والطلاب وشاغلو الوظائف التعليمية حسب المناطق التعليمية بالمملكة للعام الدراسي (1435/1434هـ)

Schools, Class-rooms, Students, and Academic Staff by Administrative Areas & Educational Districts (2013/2014) in K.S.A (Boys)

Teachers معلمين							Students طلاب							Classes فصول							Schools مدارس								
			Secondary ثانوي						Secondary ثانوي						Secondary ثانوي						Secondary ثانوي								
المجموع Total	التربية الخاصة Special Ed	تعليم كبار Adult Ed Elem	مقررات Devlop Secondary	عام General Secondary	متوسط Intermediate	ابتدائي Elementary	المجموع Total	التربية الخاصة Special Ed	تعليم كبار Adult Ed. Elem	مقررات Devlop Secondary	عام General Secondary	متوسط Intermediate	ابتدائي Elementary	المجموع Total	التربية الخاصة Special Ed	تعليم كبار Adult Ed. Elem	مقررات Devlop Secondary	عام General Secondary	متوسط Intermediate	ابتدائي Elementary	المجموع Total	التربية الخاصة Special Ed	تعليم كبار Adult Ed. Elem	مقررات Devlop Secondary	عام General Secondary	متوسط Intermediate	ابتدائي Elementary	ادارة التعليم Educational Departments	المنطقة الإدارية Administrative Areas
37,203	982	0	1928	7034	9361	17898	498,337	3038	1394	27088	98093	120769	247955	20,382	507	81	1106	3258	4699	10731	1,735	103	30	69	291	496	746	الرياض	
930	23	0	40	184	227	456	6,810	33	0	226	1503	1729	3319	528	31	0	22	71	114	290	95	8	0	2	17	26	42	الأفلاج	
843	31	0	77	98	217	420	5,974	36	5	465	907	1546	3015	402	24	1	29	42	78	228	82	15	1	3	10	17	36	حوطة بني تميم والحريق	
3,375	184	0	108	690	823	1570	39,135	313	143	1318	7900	9506	19955	1,803	88	14	93	295	371	942	226	25	4	8	40	59	90	الخرج	
2,742	87	0	44	566	735	1310	21,963	141	183	389	5484	5405	10361	1,580	79	24	54	234	309	880	327	30	12	5	56	88	136	الدوادمي	
1,042	27	0	81	168	252	514	7,231	42	7	660	1151	1851	3520	429	15	3	30	51	89	241	68	6	1	4	8	17	32	الزلفي	
719	38	0	14	147	178	342	5,294	45	53	261	1129	1358	2448	347	29	10	12	51	78	167	81	17	3	2	15	18	26	شقراء	الرياض
1,276	23	0	65	220	307	661	8,468	37	139	479	1842	2067	3904	794	45	19	30	88	152	460	142	14	7	2	23	36	60	عفيف	
122	3	0	0	27	41	51	993	5	0	0	262	239	487	68	4	0		11	18	35	13	1	0	0	2	5	5	الغاط	
1,818	41	0	25	332	489	931	13,205	54	330	172	3098	3324	6227	1,410	39	71	20	134	264	882	264	9	24	2	38	71	120	القويعية	
1,877	65	0	139	318	440	915	14,269	92	102	1300	2490	3496	6789	876	41	14	61	103	188	469	163	16	6	6	26	43	66	المجمعة	
1,706	38	0	61	336	427	844	16,630	68	76	1112	3024	4070	8280	946	26	12	61	118	201	528	174	12	7	9	29	43	74	وادي الدواسر	
53,653	1,542	0	2,582	10,120	13,497	25,912	638,309	3,904	2,432	33,470	126,883	155,360	316,260	29,565	928	249	1,518	4,456	6,561	15,853	3,370	256	95	112	555	919	1,433	جملة	
12,740	351	0	869	2285	3114	6121	166,235	957	1412	10795	29996	43496	79579	6,749	169	111	569	966	1489	3445	689	45	30	31	116	177	290	مكة المكرمة	
20,515	595	0	1564	3955	5275	9126	281,836	1693	2854	19103	50266	69614	138306	11,137	317	177	1017	1726	2535	5365	922	84	43	46	173	237	339	جدة	
11,728	339	0	713	2180	2985	5511	120,634	861	417	7486	23596	30130	58144	6,037	274	52	402	845	1324	3140	854	81	31	22	134	239	347	الطائف	مكه المكرمه
3,400	72	0	261	528	872	1667	28,905	191	161	1881	5168	7250	14254	1,690	79	23	132	183	326	947	326	34	16	12	36	82	146	القنفذة	
2,178	50	0	97	355	520	1156	16,311	87	243	846	3284	4131	7720	1,039	38	41	59	115	237	549	221	18	23	4	27	65	84	الليث	
50,561	1,407	0	3,504	9,303	12,766	23,581	613,921	3,789	5,087	40,111	112,310	154,621	298,003	26,652	877	404	2,179	3,835	5,911	13,446	3,012	262	143	115	486	800	1,206	جملة	
12,264	345	0	881	2115	3457	5466	153,803	1003	1469	10208	26877	38290	75956	6,461	239	111	448	865	1493	3305	760	62	41	24	104	218	311	المدينه المنورة	
828	29	0	69	113	200	417	7,731	51	36	676	1308	1910	3750	530	22	9	60	41	102	296	87	9	2	3	11	23	39	العلا	
1,186	19	0	25	181	318	643	7,181	32	59	159	1580	1900	3451	578	18	10	9	65	126	350	127	10	8	1	14	37	57	المهد	المدينة المنوره
3,327	90	0	311	490	795	1641	34,195	166	115	2769	5229	8437	17479	1,708	77	20	176	197	377	861	223	32	11	9	31	57	83	ينبع	
17,605	483	0	1,286	2,899	4,770	8,167	202,910	1,252	1,679	13,812	34,994	50,537	100,636	9,277	356	150	693	1,168	2,098	4,812	1,197	113	62	37	160	335	490	جملة	
8,882	424	0	444	1662	2231	4121	89,433	831	496	4604	17460	21975	44067	4,921	329	109	198	650	1033	2602	779	112	50	20	99	186	312	القصيم	
718	38	0	10	176	182	312	7,188	58	78	205	2170	1630	3047	358	26	10	9	71	76	166	67	11	4	1	14	17	20	البكيرية	
1,498	54	0	158	212	377	697	16,938	161	37	2010	2133	4253	8344	835	28	6	118	95	175	413	108	6	3	7	18	29	45	عنيزة	
1,990	48	0	155	287	464	1036	16,345	87	78	1697	2526	4120	7837	1,021	44	15	86	100	202	574	168	19	6	5	22	40	76	الرس	القصيم
612	15	0	0	141	153	303	5,190	23	72	0	1355	1346	2394	323	14	19	0	56	65	169	64	6	6	0	11	17	24	المذنب	
13,700	579	0	767	2,478	3,407	6,469	135,094	1,160	761	8,516	25,644	33,324	65,689	7,458	441	159	411	972	1,551	3,924	1,186	154	69	33	164	289	477	جملة	
18,208	544	0	784	3915	4586	8379	225,704	1564	687	8982	46118	54548	113805	9,276	338	66	455	1586	2101	4730	906	82	24	27	179	255	339	الشرقية	
9,604	501	0	525	1739	2416	4423	103,785	1130	710	5139	18473	25860	52473	4,644	255	112	221	685	1047	2324	546	52	45	16	98	135	200	الأحساء	
4,880	139	0	216	1047	1171	2307	53,526	269	180	1495	12231	12366	26985	2,345	78	19	80	424	507	1237	298	24	10	11	61	83	109	حفر الباطن	
32,692	1,184	0	1,525	6,701	8,173	15,109	383,015	2,963	1,577	15,616	76,822	92,774	193,263	16,265	671	197	756	2,695	3,655	8,291	1,750	158	79	54	338	473	648	جملة	
9,778	283	0	368	1893	2388	4846	101,318	485	404	3898	19819	24038	52674	4,926	160	37	278	750	1030	2671	589	44	14	15	103	157	256	عسير	
4,595	116	0	207	866	1121	2285	39,389	245	128	1707	7757	9683	19869	2,385	128	15	124	297	459	1362	477	64	13	13	63	119	205	بيشة	
1,243	30	0	50	242	310	611	7,986	49	86	360	1956	1873	3662	601	32	15	11	78	113	352	142	16	10	2	18	36	60	رجال ألمع	
2,413	33	0	135	455	594	1196	17,858	49	141	765	3422	4380	9101	1,390	40	27	58	163	279	823	256	14	11	5	38	66	122	سراة عبيدة	عسير
3,865	110	0	169	695	1023	1868	42,061	247	370	2166	8657	10756	19865	2,180	116	56	103	279	456	1170	397	52	29	10	49	97	160	محايل عسير	
1,203	48	0	65	225	301	564	5,641	50	0	420	1060	1385	2726	525	29	0	20	65	99	312	115	13	0	2	15	29	56	النماص	
23,097	620	0	994	4,376	5,737	11,370	214,253	1,125	1,129	9,316	42,671	52,115	107,897	12,007	505	150	594	1,632	2,436	6,690	1,976	203	77	47	286	504	859	جملة	
7,848	268	0	392	1525	1982	3681	70,866	437	620	4349	13640	17590	34230	4,208	169	97	192	543	853	2354	739	69	53	19	102	175	321	حائل	حائل
7,917	226	0	393	1344	2003	3951	101,677	475	429	4431	20891	24319	51132	4,342	168	75	183	602	989	2325	585	57	30	16	97	160	225	تبوك	تبوك
3,541	97	0	308	505	831	1800	25,262	164	99	2286	3839	6181	12693	1,759	75	15	186	175	310	998	330	26	14	13	41	78	158	الباحة	
2,004	48	0	122	269	481	1084	13,954	123	116	1167	2627	3402	6519	993	58	31	56	97	190	561	211	24	13	7	25	52	90	المخواة	الباحة
5,545	145	0	430	774	1,312	2,884	39,216	287	215	3,453	6,466	9,583	19,212	2,752	133	46	242	272	500	1,559	541	50	27	20	66	130	248	جملة	
3,671	77	0	187	687	928	1792	38,107	170	128	1618	7809	9281	19101	1,775	68	15	85	279	384	944	288	19	5	9	65	84	106	الحدود الشمالية	الحدود الشمالية
4,122	123	0	248	641	987	2123	38,221	230	151	2150	6720	9086	19884	1,895	86	29	134	263	414	969	287	29	13	10	45	82	108	الجوف	
1,967	45	0	35	400	450	1037	22,048	72	185	413	4874	5063	11441	1,024	24	18	43	169	214	556	141	8	6	3	26	37	61	القريات	الجوف
6,089	168	0	283	1,041	1,437	3,160	60,269	302	336	2,563	11,594	14,149	31,325	2,919	110	47	177	432	628	1,525	428	37	19	13	71	119	169	جملة	
7,949	273	0	503	1349	2151	3673	88,565	647	1923	5314	15579	21214	43888	4,017	169	79	243	496	860	2170	635	54	36	20	93	174	258	جازان	
6,271	149	0	333	1015	1743	3031	64,458	281	1004	4061	9786	16107	33219	3,367	105	89	185	363	715	1910	610	51	55	18	68	157	261	صبيا	جازان
14,220	422	0	836	2,364	3,894	6,704	153,023	928	2,927	9,375	25,365	37,321	77,107	7,384	274	168	428	859	1,575	4,080	1,245	105	91	38	161	331	519	جملة	
4,996	170	0	327	820	1170	2509	65,185	292	1047	3831	10983	15216	33816	2,869	114	109	141	345	600	1560	427	42	41	12	64	112	156	نجران	نجران
241,594	7,291	0	13,506	44,432	61,076	115,289	2,715,845	17,084	18,367	150,461	516,072	666,190	1,347,671	127,473	4,814	1,866	7,599	18,090	27,741	67,363	16,744	1,525	791	525	2,615	4,431	6,857	المجموع العام	

Appendix E. Email sent to participants for transcript validation

New Message

To

Cc Bc

Subject

Dear

I highly appreciate your contribution to my PhD research of " Curriculum Implementation in Saudi Arabia: The Multi-Stakeholder Experience of the Tatweer Project". Lots of useful information were obtained as a result of the interview, thanks for that.

To validate and ensure the quality, reliability of my data I have attached the transcript.

Please have a look and feel free to delete or add any statement or any suggestion.

Thank you again.

سعادة الدكتور

اقدر بشكل كبير مشاركتك ومساهمتك في هذا البحث بخصوص تنفيذ المناهج بالمملكة العربية السعودية ، تجربة اصحاب المصلحة من مختلف المستويات حول مشروع تطوير.

لقد تحصلنا على الكثير من المعلومات القيمة من خلال مقابلتكم ، تجدون نسخة مرفقة مع هذا الإيميل من اجل ضمان جودة وصحة البيانات.

نامل منكم الأطلاع عليها كما يمكنكم اضافة او زيادة او إلغاء أي جمل

تقبل خالص شكري وتقديري

اخوك صالح بن عليبي الغامدي

Best regards
Saleh Alghamdi
PhD student

Sans Serif

Send

Saved

Appendix F. Sample of Data Analysis using Excel

	memorisation	purpose of the new science curriculum. As a result, many school students cannot get their chance into the science lab due to lack of facilities and many science experiments cannot be made for almost 99% of schools. (Fred)T. Learning by memonzing still existing and et There are lots of Saudi students' studies in the USA and UK and they are excellent. The learning by memorizing is an important method . (Mahmood)H. Learning by memorising, I think it's still there, however the new textbook tries to reduce dependence on it. (Khaled)S use the technology like projectors and smart boards. (Zeyad) S
trianning		Nothing is related to Tatweer project. It was individual efforts, teachers did that. We do training programmes for free to the students in the evening. I am sure that there is no school in the whole kingdom does what we do in our school (only few might do this). These ac training programme for the students was done before the (TAHSEEL exams) (5:13). we had 86 students who were meant to do exams and all of them came to this free supportive teaching programme in the evening. (Khaddr)H.So we use the money we receive from Tatwe programme, you would give some certificates, gifts and rewards for the trainers. Also the best students (not the intellectual ones) got financial rewards for their activities. In (community participation)(Khaddr)H .the training department is doing a lot of effort but this de clear and organised training program for the teachers(.Attih)H. I worked in training company. The courses provided by external companies was strong and has benefit. I'm not happy with teachers training and trainers need training they are not professional. Actually th Attih)H. these training programmes are bad. (Tareq)T.Training programmes, I attended only one training programme and I was so disappointed. The trainer published a book and began to be one of the training staff. So that training session is very poor (Rami)T.Unfortu enough supervisors in the unit. We only are 5 supervisors. I think the reasons for having this small number of supervisors because of demotivation and unattractive environment. (Saeed)U TP did not provide any training for them. I remember there was one course calle each city. This course was about how to deal with technology. This is what I can remember from TP but most of the courses were self-efforts from Tatweer units.(Saeed)U.The policy of training is a cumulative one. The education administration usually selects for examp teachers and the 50 train 500 and so on. However, this policy lacked the constancy aspect and there was an information gap created. I would like to highlight that I was one of the writers of the new textbooks when the period finished. I went back to my previous job as t courses. I really was surprised when the trainer tried to explain some information about the new textbooks. He had completely a different and incorrect picture about that. Therefore, in a very polite way, I tried to make everything clear to him. Then, he asked me to delive or other teachers. (SAEED)U. we don't have the right tools to implement such project. Another thing is that there is no training. Teacher training is very important. So, why they don't give more training to the teachers in order to do their work and duty in the right way? So, it is not just providing the materials and tools and then tell the teachers to go and teach. It is important to know how to operate such machines and then how to use them. (Salem)T. somebody from Tatweer came and explained the advantages and disadvantages of s explained to us (Tamm) T
		All the computer teachers must be well trained on the new textbooks (the developed ones such as the computer and the maths ones). Honestly, all the teachers have to get some training on all the new textbooks. (Khaddr)H .I have attended many training programmes one sentence changed me. But what we get is nothing. You know the trainer, if we say the number of teachers is 100, there are five trainers who want to be more productive (Tareq)T. Some trainers from schools do the training. They use the internet and use some inform hand out these sheets as informative and training sheets. I think experienced and skilful teachers should provide training courses especially those who know how to deal with students regardless to their attitudes and their educational level. (Tareq)T. These are Trainir sometimes some teachers can also design them. I still remember when we were involved in designing a course called (documentation and prepare lessons). The courses are the result of some school observations we conducted. We look at the needs and then decide wha considered as self-efforts (Saeed)U .We had a training course outside Riyadh. Some of us went to Jeddah and others went to Abha. The Training was for about a week and it was about a kind of training teachers to be better in their ways of teaching. All the school tea This made us realise that there is a big burden has been put on our shoulders. (Salem)T. When the TPstarted there was no enough training. There was very little training. You know, we still use the traditional teaching which includes memorisation. There is no creative t Salem)T.there were a number of training sessions, particularly for the new curriculum, for every new part of science subjects such as chemistry, physics. To be able to teach science subject and the new curriculum you need high technique of tools in the science laborat know anything about the maths new curriculum, and how it should be taught. Training is needed as well as lab preparation and utilising effective labs. (Hatam)T They only trained two teachers. The plan was to train these two teachers so that they can train their c sometimes is not working well, because the benefit of training will get decreased from one to one. We have tried to find out another solution which is instead of using face to face training we can use the online training. I need to add here a point; people who are workin train them. (Shami) D There was training for one or 2 teachers and the ask them to train the rest of teachers in the school as you know not all teachers luggable to deliver all the experience in one or 2 days this was very bad training .(Fatema)H . Tatweer Company skills and another one for improving teachers' teaching methods. In order to improve English language skills, 6000 teachers were asked to do a test. As a result, we found that some teachers need to look at their English language skills to help them build their confidence unfortunately we had only 2525 in this programme. The programme lasted for 6 months. This program was to improve English language skills for teachers who had 5 in IELTS or 60 in TOEFL.Another program was produced online by EF Education First. They had online companies that helped in learning English language skills online.2000 teachers enrolled in this program nearly 1850 continued, it ended in 2014. This what we have done to empower teachers in English language (Rhean) to improve teachers in English language teaching collaboration with the teacher's college in Colombia University, which is a leading college in this field. They came here and trained about 150 masters trainer for teaching reading and writing skills. The programme lasted for one year. They visited us about 4 times, every teachers came from different cities about 16 cities, they went back to train 1000 teachers in their cities.The second programme was to train teachers about the new curriculum. We asked the three companies which McGraw Hill, MM and Macmillan to train 750 teachers an came and trained teachers in 6 cities. MM did their training in Riyadh and Qassim. McGraw Hill did their training in Abha and Jazan in and Macmillan in east region and Jeddah. Not all teachers attended this programme, just 620 teachers we asked them to choose the bes

Appendix G. Research Ethics approval letter

The University Of Sheffield.

Downloaded: 24/11/2015
Approved: 24/11/2015

Saleh Alghamdi
Registration number: 130249838
School of Education
Programme: PhD

Dear Saleh

PROJECT TITLE: Curriculum change and implementation in Saudi Arabia: the multi-stakeholder experience of the Tatweer project
APPLICATION: Reference Number 006397

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 24/11/2015 the above-named project was **approved** on ethics grounds, on the basis that you will adhere to the following documentation that you submitted for ethics review:

- University research ethics application form 006397 (dated 25/10/2015).
- Participant information sheet 1012816 version 1 (25/10/2015).
- Participant consent form 1012817 version 1 (25/10/2015).

The following optional amendments were suggested:

1- Information sheet: This information sheet makes strong claims about the impact the research will have. Please change 'will' to 'might' in order to avoid raising expectations. 2- Ethics permission for carrying out the study is different from participant consent and permission sought from a national or local authority. Currently, there is a confusion in the wording i.e. "The consent for this research is sought from the University of Sheffield education department, the schools in Saudi Arabia, regional district directors, policymakers and the Ministry of Education." Ethics permission is a University process and is essential in order for you to be able to carry out your study. In some contexts, permission from an authority is necessary for gaining access to research sites. Finally, individual participants have to give their consent for participating in the study. Please work with your supervisor to clarify these. 3- In section 11. "What if something goes wrong?" You have copied and included the contact details of another student (skal-abry1@Sheffield.ac.uk)! Please check this carefully (including the phone number) and make sure you amend before sending it out.

If during the course of the project you need to deviate significantly from the above-approved documentation please inform me since written approval will be required.

Yours sincerely

Professor Daniel Goodley
Ethics Administrator
School of Education

Appendix H. Sample of My Research Dairy

Research dairy and some reflections

The following report describes my field work journey for data collection in Saudi Arabia. I will briefly discuss how I conducted the interviews (all in Arabic language) and some visits to government institutions that are related to my research.

I have a list of various schools who implemented the TP which made it easy to approach the principals to get permission to conduct my research. Consequently four principals expressed their interest to help me conduct my research in their institutions. I provided them with the following documents (Letter from the Embassy, research ethics letter, information sheet, and my personal letter to participants).

Interview 1 (group conversation)

The first interview was with two participants who kindly agreed to talk about my research in a group conversation. The group included a principal and a teacher who preferred to share their experience in a group. I met them in a district club (after school club) that Tatweer created as an extra-curriculum activity. I also found that a very good opportunity for me to look closely at what TP did in real life. District clubs according to the TP are schools in districts and neighbourhoods which offer educational and recreational activities. Students are the target in particular and the community members in general. The clubs offer services in the evening after school time, the main purposes of these clubs are to gather students with similar interests; develop skills, hobbies, and investment the student's time.

I rented a car and immediately went to meet participants, where the club was in north of Riyadh. I arrived to the school (the club) at 6.45 PM. I met them and introduced myself again and asked them to sign the consent forms after they were happy to take part.

The interview took place in a very quiet room in the club. The first questions were warming up questions which included general information about their qualifications and work experience. Then we started talking about the TP. They both seemed to be positive about the outcomes of the project. The school principal in particular explained that the TP changed the school's system and all the teaching plans have become clearer and easy to implement. I will not discuss the content of this interview in details as the main aim of this report is to give a general picture about my field work

Appendix I. Sample of My Interview Guide

Warm up questions:

1- Can you please briefly describe your educational background?
2- Can you please tell me how long have you been in this job?

Free talking

1- Tell me about your experience of Tatweer project

Probing questions that may be asked whenever needed

- The difference from the previous curriculum change programmes
- How the Tatweer project changed the way of students learning?
- Training
- Change curriculum textbooks
- Kind of extra-curricular activities the Tatweer has introduced
- The students and teachers benefit of using technology

2- Could you please tell me how curriculum was designed and implemented?

Probing questions that may be asked to probe deep:

- Involving in the Tatweer project implementation or designing
- Involving in curriculum development

3- In your opinion, are there any challenges or problems in the secondary school curriculum as it is designed and implemented now?
4- Do you have anything to add?
5- Do you have any questions?

Thank you again for accepting to take part and as I already mentioned in the information sheet all data will be confidential and anonymous. I also may contact you in future for any further clarifications.

Interview preparation

I prepared my questions, to be more flexible, worthwhile, simple, and open ended.

Some things I have to think about:

Before the interview

- Access to organisation (schools name and contact)
- Time management, to schedule all interview to avoid any clash between the appointments
- Consent form
- Information sheet
- prepare high quality records
- All my interviews consent voluntarily
- Convenience venue

During the interview

- Ethical confederation and issues (ensuring confidentially) transparency, integrity
- Pilot the interview
- Emotional responses
- Interview technique is different from person to person
- Power relations (explain my purpose of the research)
- Respect any answer and do not show the participants, I'm not satisfied with their response
- Try to have contact with the participants or tell them to allow me to get back for any clarification

After the interview

- Reflexivity: for example, listen to the recording immediately after the interview to correct some mistakes or reducing bias in the next one
- everything in the please can help me in my research
- Storage
- Transcript

Appendix J. Sample of an Interview Transcript

Interview 4 . Date 1 / 4 / 2016 – 10PM Pseudonym: Ahmed

Saleh: Can you please tell me about your work experience and teaching background?

Ahmed: I have a PhD in pedagogy particularly in the policy of education. I have been working in the field of education for about 24 years. My career started as a teacher then as a supervisor and then as head-teacher assistant then as a head-teacher as director general assistant then as a general director in the ministry of education. I am also a member of various committees that are associated with educational aspects. I am also a representative of the Kingdom in the UNESCO in relation to education for all.

Saleh: TP is a huge project and there is not enough information about it. What do you know about this project and what is your personal experience about it?

Ahmed: TP is a Saudi project which aims to develop and invest in human's capital. This project is launched from four dimensions. The first dimension is about the curriculum and the second dimension is about teachers training. The third dimension is about the schools' buildings and the last dimension is about the class activities and non-class activities (extra-curriculum).

Saleh: Can you please tell me how it was implemented?

Ahmed: Any educational plan needs to go through a trial period when first implemented. If it becomes successful within a small geographical area, then we would expand it further. However, if the plan fails to achieve its goals, then we would probably cease it in order to eliminate any educational or financial losses or waste the students' time. So TP was implemented in some specific schools so that it can be developed within the school itself. Then, the project moves to the second stage which is the monitoring (supervision) and the third stage is the high leadership where new administrators were established to monitor such programmes on these schools. It was proposed that the TP to cover about 45% of all the schools in 2009. In the first place, it was implemented in 50 schools. These schools were secondary schools and its aim was to expand geographically all over the Kingdom. Furthermore, a vital role of it is to integrate the technology in teaching with training the teachers and the school leaders. I would like to highlight that after this long time, no body, educational institution or the ministry of education has assessed or

evaluated the project at all. So, in order to judge whether it has achieved its goals, TP needs to go through an assessment and evaluation process.

Saleh: What is the difference between this project (TP) and other projects that were provided by the ministry?

Ahmed: The ministry works on all the educational sectors of the Kingdom such as general education, basic and secondary education primary, intermediate and secondary schools. However, TP is different; it is a transitional project that aims to develop the four dimensions the dimensions I already mentioned, however, the ministry provides the services to all the educational sectors regardless gender or location and such services can extend quantitatively. However, TP is aimed to be extended qualitatively.

Saleh: That is great; I really had no idea about all this. From your point of view, do you think that TP has achieved its aims regarding its policies and strategies?

Ahmed: It is not easy to judge if a programme was successful or not without conducting empirical research or studies to investigate that in its real life context. Therefore, no one can judge the success or failure of any programme without conducting relevant studies. That is why we need to have certain criteria to decide if it has succeeded or failed. These criteria can help us understand and find out whether there was enough time, enough budget, if it had qualified people to implement it, if was implemented in the right time, and if it was implemented in the right school. So, the ministry of education has to carry out a neutral study or research in order to evaluate this project.

Saleh: I think there have been some (MA) studies in relation to this project; do you think they were helpful to look at this project?

Ahmed: All these studies that I know were not genuine. In other words, students do their studies only to pass a course and get a qualification. I have not come across or read any research that has been funded or supported and we can take its findings or results seriously.

Saleh: Okay, do you think that TP provided new experiences in the field of education?

Interviewee: There is no doubt that any attempt or trial should have a positive impact even it was unsuccessful. I can support my argument by saying that many international experiments which are not widely spread but they achieved their goals. Some examples

of these experiments are Hillor experiments which were implemented in Sweden. The idea was to introduce schools without classrooms. It was firstly rejected and criticized. However, as I was following and reading about this idea I found out that it was implemented at 45 schools even though it was not welcomed at the first place. As a result, any experiment or attempt should have a positive side.

Saleh: You know that any project may have some challenges and obstacles, so do you think that TP has faced any challenges and obstacles?

Ahmed: Yes, I think the first challenge is the change. You know that change always takes a long time and we have to be patient with that. The change (change management) should have started with the commencement of the TP in order to convenience the people that there is something new and a new experiment are coming. It is very common to find human resistance to such changes for any new thing. People in Saudi Arabia have not experienced any new programmes like TP for a quite long time. So the greatest challenge was change-resistance. The second challenge (which I consider as a national one), the general population (community participation) was not assisting to promote and encourage this project. I mean parents, leaders, administrators, and the majority of the population should work shoulder to shoulder in order to support this national project because this project is for the future of our nation.

Saleh: What do you think about the training that is provided by TP?

Ahmed: I have no idea.

Saleh: Okay, my question now is what is the relationship between TP and the curriculum? What is curriculum and what TP offered the curriculum from your experience?

Ahmed: Let me first define what is meant by the curriculum It doesn't mean only the school textbook. It means the textbooks, activities, the way of teaching and delivering the lessons and the strategies and sometimes the evaluation can be included in this concept, as it can be considered as a part of the curriculum. TP did not start from these points. It was meant to produce curriculum which start from KJ and it succeeded in doing so. It produced syllabus for the nursery stage. However, it terms of the general education (basic and secondary education), the ministry is still the main source of such educational syllabus.

Saleh: Which department in the ministry is responsible for such teaching syllabus?

Ahmed: It is the department of curriculum and teaching is in charge of the following three points: the first one is preparing the curriculum documents, matrix and finally the authorship of the textbooks.

Saleh: Who do you think assisted in the preparation of the textbooks?

Ahmed: There were teachers and instructors in the preparation. There were five subjects (Islamic studies, societal studies, Arabic language, and AL-WATANEEAH (patriotism). However, in terms of Maths, Sciences and English language, they were adopted from international curriculum.

Saleh: Which countries?

Ahmed: there was a British and American series. What has been chosen is the American one which belonged to McGraw-Hill Company. (9:37)

Saleh: Do you think there have been any benefits from the new curriculum that have been added?

Ahmed: Indeed, there are some benefits in terms of the educational values, the economy of the Kingdom and the intellectual skills.

Saleh: Do think the new curriculum have assisted students to be more creative and changed the old teaching methods that have been used in schools?

Ahmed: we can measure this by looking at the kingdom's ranking in the international exams. The kingdom got a new rank in many international exams such as PERS and Timss. In addition, many Saudi students achieved various international awards because of their creativity and in mathematics and scientific Olympic conferences. Many Saudis passed skilful and talented evaluations. All these indicators can be used as a positive side of this project.

Saleh: The world is criticising the Saudi curriculum because there are more Arabic and Islamic studies lessons than the rest of the lessons. In other words, they say our curriculum is encouraging people to be more extremism. So, do you think that the TP has answered and responded clearly to all these criticisms?

Ahmed: Any single nation has own curriculum; the curriculum doesn't depend on the time but depend on the content. Some of the subjects need up to five hours and others need one or two hours. This can be seen in the teaching policy and plans. Many people ignore the educational plans when they talk about curriculum. I may offer long educational plans with little content. I also may offer short educational plans with very condensed and profound materials.

In terms of the content, there should be a scope and follow up by the country. This means that whatever is taught should be followed by some stages until it is completed.

Saleh: What do you think about the Saudi curriculum and the teaching materials in terms of preparing the students to the local and national markets?

Ahmed: You mean about the general education!

Saleh: Yes, it is.

Ahmed: I think the best example to know about this is by looking at the graduated students and then you can judge from there. The graduated students usually focus on four directions (universities, vocational and public colleges, private and public businesses and military sectors. So, such institutional and work places would be more aware of the individuals' abilities and intellectuality.

Saleh: You know; the electronic book has recently been produced; do you think it is a big transaction from the paper books to the electronic one?

Ahmed: In terms of saving the students' time is really a positive factor. However, there are several disadvantages in terms of the cost which is considered to be quite high. Another important factor is the cost of the technology which is needed to project such materials such as I pads, laptops and other equipment need to have specific features such as speed, pixel and sound clarity. The book isn't regarded everything, but it is supplementary.

Saleh: Do you mean that there will be a move towards the use of technology?

Ahmed: I have seen some projects such as the Korean one. So they combined the technology with education from 2006 and they have not eradicated the use of paper books.

This is because in the end, there are some problems in such technology which has been identified by the educationalists in four points:

1) The electronic books isolate the students from the society and affect their social life.
2) When the student is browsing the electronic book, he/she might browse other websites which could affect their personality.
3) The electronic book is a positive one, but it is not an interactive one. In this case, there should be educational organisations that could assist its unattractiveness and not having IT firms.
4) The use of electronic books can reduce the skills of the students because the students learn by the practice which cannot be done electronically.
5)

Saleh: You know; the activities are very important in the classrooms. There are some class activities, what do you think about extra-curriculum. Do you think the TP added any extra-curriculum that could assist and promote the learning environment of the students?

Ahmed: Indeed, the TP has helped to establish afterschool clubs. Now there are about 400 clubs around the region. It starts to concentrate on both the teachers and the students. This is a very positive point. We hope that it will be a great support for parents as well.

Saleh: Do you think that the government is happy and satisfied about the implications of TP?

Ahmed: In terms of education, you won't find anyone satisfied with it until it reaches the highest position in education.

Saleh: Would you like to add anything please?

Ahmed: No thanks, I hope all the best for your research and I hope you will obtain great results that can improve or support the project in order to develop the Kingdom. I hope your study will not be bias to judge to what extend the TP has succeeded or failed.

Saleh:

Many thanks for your participation.

Appendix K. Participant Information Sheet

1. Research Project Title:

CURRICULUM INNOVATION IN SELECTED SAUDI ARABIA PUBLIC SECONDARY SCHOOLS: THE MULTI-STAKEHOLDER EXPERIENCE OF THE TATWEER PROJECT

2. Invitation

You are inviting to be part of my research. Please take some time to read the information about the research, I am happy to answer any question.

Note: you have right to decide whether or not you wish to take part of this research

3. **What is the project's purpose?**

The study is being undertaken in partial fulfillment of the requirements for a PhD course at The University of Sheffield. The findings of the study will be used solely for academic purposes. I am interested in exploring how the Tatweer Project - most recent curriculum change programme in Saudi Arabia has improved the secondary level education. This research is proposed to investigate the inclusiveness of Tatweer implementation and to what extent the stakeholders at different levels participated during the programme. The project shall be conducted from March 2014 to August 2017.

4. **Why have I been chosen?**

You are one of the valuable and active stakeholders of secondary education in Saudi Arabia. You are engaged in education at this level on daily basis and your opinions would matter to my subject of research because you are an important participant on whom the Tatweer project had a direct impact or by whom the Tatweer project was impacted.

5. **Do I have to take part?**

It is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw at any time without it affecting any benefits that you are entitled to in any way. You do not have to give a reason.

6. **What will happen to me if I take part?**

I am interested in your views and these will be sought through the use of face to face interviews, which with your consent will be recorded. No other use will be made of them without your written permission, and no one outside the project will be allowed access to the original recordings.

The schedule for the researcher's visits to your school will be negotiated with you in advance. You will not incur any travelling expenses for the researcher will be visiting you on site.

7. **What do I have to do?**

Your participation in this study will not impose any restrictions on your lifestyle.

8. **What are the possible disadvantages and risks of taking part?**

Your participation in this study will not expose you to any risks or disadvantages.

9. **What are the possible benefits of taking part?**

If you take part in this study, you are contributing to enhance the secondary education in Saudi Arabian public schools. This study is also about how the Tatweer has shaped the learning experience in general; therefore, your participation will help to improve education policy-making, implementation and application. It will also help independent curriculum developers in Saudi Arabia to develop future curriculum in a way that will benefit the wider stakeholders putting an emphasis on social inclusion and participation of various key stakeholders.

10. **What happens if the research study stops earlier than expected?**

If this is the case, the reason(s) will be explained to the participant.

11. **What if something goes wrong?**

If there is a concern about any aspect of this project from the school that participates in the project, it should be addressed in the first instance to the PhD student, Telephone: (+44) (0)7479714432 Email: soalghamdi1@sheffield.ac.uk

Alternatively, if any of the participant schools received a complaint about this project, they may also contact School of Education, General enquiries Tel: (0114) 222 8177 E: edu-enquiries@sheffield.ac.uk

Or contact the supervisors of the project, Professor Jeremy Wellington j.wellington@sheffield.ac.uk or Professor Pat Sikes p.j.sikes@Sheffield.ac.uk

12. **Will my taking part in this project be kept confidential?**

All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any reports or publications.

13. **What type of information will be sought from me and why is the collection of this information relevant for achieving the research project's objectives?**

As an active participant or beneficiary of the Tatweer project, you will be asked on your views and experience of teaching (for teachers), learning (for students), designing and delivering (for policy-makers) of the Tatweer project. I am interested in knowing how you as a participant feel about the changes that the Tatweer project provided in terms of changes in curriculum, extra curriculum, trainings and learning environment and how it helps you at your level.

14. **What will happen to the results of the research project?**

The research results will be published during the last year of study and participants will be informed in due course how they can obtain a copy of the publication.

15. **Who is organising and funding the research?**

The research is being funded by the Ministry of Education in Saudi Arabia and under the University of Sheffield supervision.

16. **Who has ethically reviewed the project?**

This project has been ethically approved via the Department of Educational Studies' ethics review procedure.

17. **Contact for further information**

Saleh Alghamdi

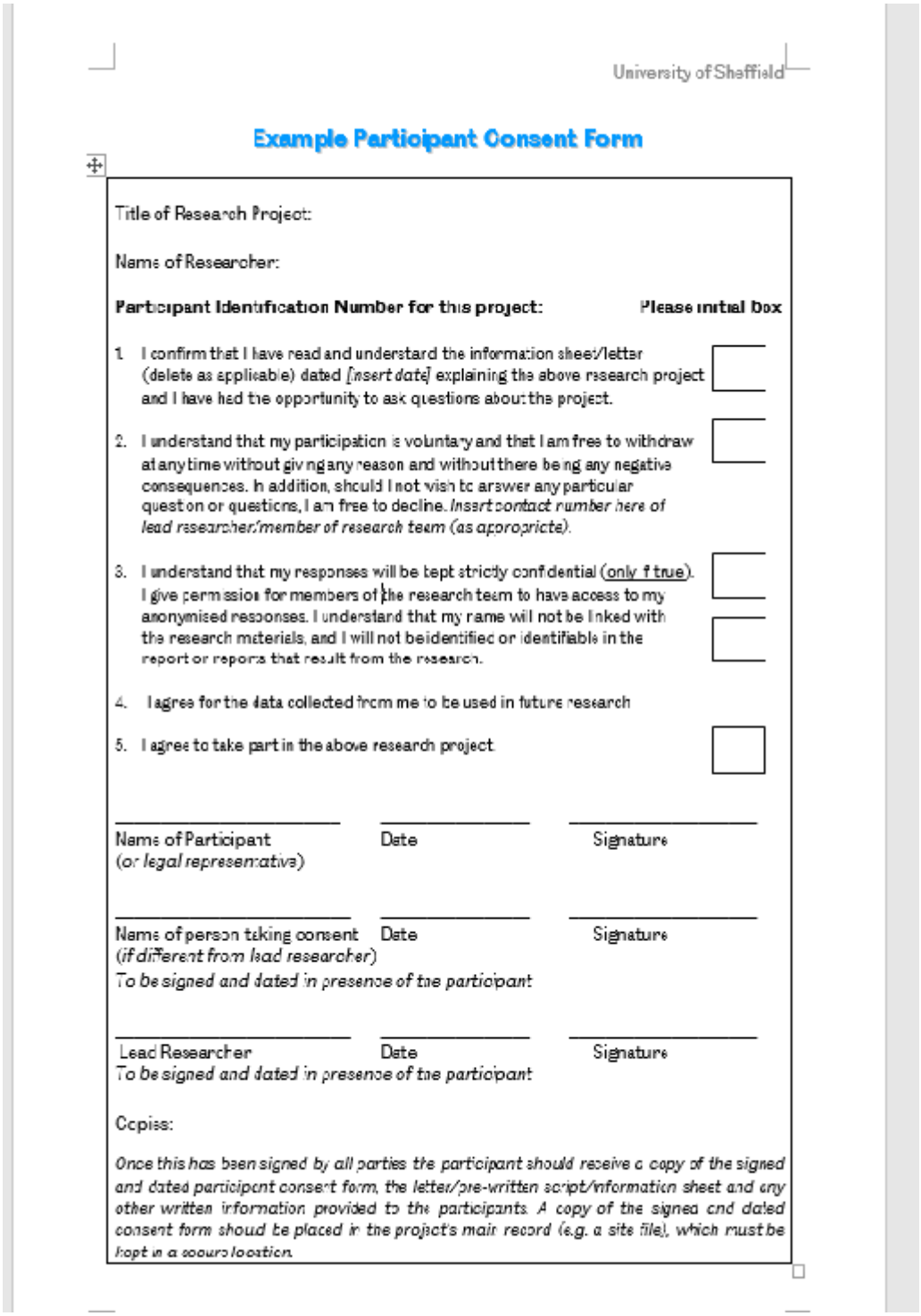
PhD Researcher, School of education, University of Sheffield

107 Barncliffe Crescents S10 4DB

Telephone:(0)7442559835
Email: soalghamdi1@sheffield.ac.uk>

School of Education, 388 Glossop Rd, S10 2JA. Telephone: (+44) (0)114 222 8101 each participant will receive a copy of the information sheet and a copy of the signed and dated participant consent form.

Appendix L. Participant Consent Form



University of Sheffield

Example Participant Consent Form

Title of Research Project:

Name of Researcher:

Participant Identification Number for this project: **Please initial box**

1. I confirm that I have read and understand the information sheet/letter (delete as applicable) dated *[insert date]* explaining the above research project and I have had the opportunity to ask questions about the project. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. *Insert contact number here of lead researcher/member of research team (as appropriate).* ☐
3. I understand that my responses will be kept strictly confidential (only if true). I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research. ☐
4. I agree for the data collected from me to be used in future research ☐
5. I agree to take part in the above research project. ☐

Name of Participant (*or legal representative*)	Date	Signature
Name of person taking consent (*if different from lead researcher*) *To be signed and dated in presence of the participant*	Date	Signature
Lead Researcher *To be signed and dated in presence of the participant*	Date	Signature

Copies:

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/pre-written script/information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be placed in the project's main record (e.g. a site file), which must be kept in a secure location.

Appendix M: Student Information sheet and Consent form

Research Project Title: Curriculum Innovation in selected Saudi Arabia public secondary schools: The Multi-stakeholder experience of the Tatweer Project

Section A: Information about the research project

You are invited to take part in my study which is being undertaken in partial fulfilment of a PhD course at the University of Sheffield in UK. The study involves exploring how the recent change in the school curriculum called the Tatweer Project has improved the secondary level education. You are being invited to participate so that you can share your own experiences as a student. The information obtained from the study will be used for my research only and will not be shared with other people apart from my research supervisor and examiners. Your name will not be used in any part of the project report to make it safe for you. If you choose to participate in the study, you will join with other selected students to talk about your experiences and this will require between 45 and 60 minutes. You are free to choose either to participate or not and you are also free to withdraw your participation from the study at any point without having to give a reason.

Section B: Consent [Please answer the following questions by ticking your responses].

1. Have you read and understood the information about the research project? Yes …No…
2. Have you been able to answer questions about the study? Yes …. No ….
3. Have you received enough information about the study? Yes …. No ….
4. Do you understand that you are free to withdraw from this study?

a). At any time? Yes ….. No ….

b). Without giving reasons for your withdrawal? Yes …. No ……

5. Do you agree to take part in this study? Yes …. No ….

Signature of participant: ……

Date: …….

Signature of parent/guardian: …….

Date: ……

Signature of Researcher: …….

Date: …….

Address: ……

Contact phone number: ……