Challenges Faced in the Identification of Gifted and Talented Boys in Primary Schools in a Selected Region of Saudi Arabia

A thesis submitted for the Degree of Doctor of Philosophy

in the University of Hull

By

Nwaimis Salem Alnwaimis

2017

Acknowledgements

All praise is due to Allah, whom I have always asked to guide me along the right path, and peace be upon his Messenger Mohammed.

There are many people to whom I owe a huge debt of gratitude for their support and advice over the seven years I have taken to complete this doctoral thesis. First of these is Dr: Carol A Dennis, who inspired and supported me to complete this study. She offered clear remarks on my work. She has always made the challenges feel achievable, and has given me the confidence to complete this project. Dr John Bennett, my second supervisor, has taught me so much about research and supported me, as well as helped me to structure the study. Dr Ioanna Palaiologou, my former supervisor at the start of my study, provided challenges regarding this study, which helped me to define my position and maintain consistency in my methodological approach. Dr Catherine Montgomery was also my supervisor at the time of the data collection, and I am grateful for her helpful suggestions to facilitate the process.

The next group of people I have to thank are from the university and Saudi Arabian Cultural Bureau in London. I would also like to thank the Financial Director and Local Authority Adviser for their time, support and advice.

My family have been unstinting in their support. My mom Sada Salem, and especially my sister, Motifah Alnowymies, have been a constant source of strength and encouragement. My wife Wafa Farhan and children, Kyan, Salem, Mohammed, Arkan, Alia, have offered technical advice, editing support, opinions and a listening ear when needed. I would like to apologise to all my friends for being so inattentive in the last few years. They have always shown such interest in my study, and been understanding about my unavailability. I would particularly like to acknowledge Qasim Al-Qasim ,Habbab Al-Twallah, Fahd Al-Dakhil, Fahd Alanazy, Nife Musabbh, Thamer Al-Khaldi and Ibrahem Al-Abboush, whose friendship has sustained me throughout the long journey of my research. I cannot express in words how much your support and encouragement has meant to me and helped me to get to this point. I consider myself very lucky to have had you with me during this exciting part of my life.

Abstract

Saudi Arabia is one of a number of countries worldwide seeking to identify and develop gifted and talented children, as a resource for the country. Scholars in Saudi Arabia have been critical of the government project seeking to identify gifted and talented children and develop their abilities, but none have so far discussed specifically the identification of gifted and talented boys, and the challenges such a process may face. Previous work has described the system of gifted education as a whole or has alluded briefly to identification in a few lines within an account of the whole system. Challenges have been identified in gifted education, but their relevance to identification has not been explored. This study differs in focusing solely on issues in the identification of giftedness and talent. This study, therefore, explores perceptions of the challenges to the identification of gifted and talented children, focusing on boys' primary schools in the selected location of KSA.

Within an interpretive framework, a case study strategy was employed, involving interviews with policy makers, teachers from four primary schools, and two parents of gifted children, regarding their perceptions of challenges related to policy, the education system, pedagogy and the Saudi culture. Context was provided by means of research notes, and the interview data were supplemented by analysis of Ministry of Education documents.

The findings reveal conceptual and practical confusion about the definitions of giftedness and talent, criteria for identification and the distinction between the identification of gifted and talented children and provision for them. In addition to incomplete, unclear and inconsistent policy, issues were raised regarding the ways in which resource shortages and inadequate teacher training influence pedagogical choices and, hence, children's opportunities to demonstrate giftedness and talent. Moreover, cultural factors contribute to resistance to the identification and development of gifted and talented children. Although not generalizable, the results provide preliminary indications of issues that should be further investigated if the Gifted and Talented Education Project is to succeed. The thesis provides new insight into the procedures used, and the challenges faced, in identifying gifted and talented boys in the selected location. In so doing, it contributes to context-specific understanding of the roles played by policy, systemic, pedagogy and cultural factors in the ways giftedness and talent are understood and identified.

Table of Contents

Acknowledgements 2

Abstract 3

Table of Contents 4

List of Figures 9

List of Tables 10

Chapter One: Introduction 11

1.1. Background 11

1.2. The Research Problem 13

1.3. Aims and Objectives of the Study 15

1.4. Research Questions 16

1.5. Significance of the Study 16

1.6. Organisation of the Thesis 17

Chapter Two: The Context of Gifted and Talented Boys in Saudi Arabia 20

2.1. Introduction 20

2.2 Background of Saudi Arabia 20

2.3. The Research Location 22

2.4 Saudi Education System 23

2.4.1 Primary School Stage and Curricula 25

2.5. Education Policy in KSA 27

2.6. Identification and Teaching of Gifted and Talented Children 29

2.7. Preparation of Teachers and Pedagogy 31

2.8. Impact of Saudi Arabian Culture on Education 33

2.9 Summary of Chapter 36

Chapter Three: Literature Review 37

3.1. Introduction 37

3.2. Defining the Terms 'Gifted and Talented' 38

3.2.1. The relationship between Giftedness and Talent 47

3.2.2 Culturally-specific understandings of giftedness and talent 50

3.3. Theories Behind the Concepts of Giftedness and Talent 54

3.3.1 Cognitive Theories 54

3.3.1.1 Gardner's Cognitive Theory of Multiple Intelligences (MI) 55

3.3.1.2 Sternberg's Triarchic Theory of Intelligence 58

3.3.2 Alternative Theories 60
3.3.2.1 Renzulli's Three-Ring Conception of Giftedness 61
3.3.2.2 Motivational Theories 63
3.3.2.3. Attribution Theory 64
3.3.2.4. Achievement Goal Theory 65
3.3.3. Emotional Intelligence 67
3.3.3.1. Mayer-Salovey Theory of Emotional Intelligence 68
3.4 Summary and Choice of Theories for this Study 69
3.5. Identification of Gifted and Talented Children 72
3.5.1 Methods of Identification: 73
3.5.2 National Approaches to Identification of Gifted and Talented Children 81
3.5.2.1 Identification of Gifted and Talented Children in the UK 82
3.5.2.2 Identification of Gifted and Talented Children in the USA 83
3.5.2.3 Identification of Gifted and Talented in Australia 85
3.5.2.4 Identification of Gifted and Talented Children in KSA 85
3.6 Challenges Faced in the Identification of Gifted and Talented Children in KSA. 88
3.6.1 Impact of Policy 88
3.6.2 Impact of Systemic Issues 89
3.6.3. Impact of Educational Practice and Teacher Beliefs and Attitudes 91
3.6.4 Impact of Islamic Culture and Law 92
3.7. Conceptual Framework 94
3.8. Chapter Summary 97
Chapter Four: Methodology: Design and Implementation 99
4.1. Introduction 99
4.2 Philosophical Foundation 101
4.2.1 Ontology and Epistemology in Research Paradigms 102
4.2.2 The Paradigm for this Study 103
4.3 Choice of Strategies and Methods 104
4.3.1 Case Study 105
4.3.1.1 Types of Case Study 107
4.3.2 Choice of Data Collection Methods 109
4.3.2.1 Semi-Structured Interviews 109
4.3.2.2 Research Notes 111
4.3.2.3 Document Analysis 112

4.4 Implementation....117
4.4.1 Gaining Access....117
4.4.2 Selection of Sites....118
4.4.2.1 Site Descriptions....119
4.4.3 Selection of Participants....121
4.4.4 Pilot Study....124
4.4.5 Main Study Data Collection: Interviews and Research Notes....125
4.4.5.1 Conducting Interviews....125
4.4.5.2 Research Notes....126
4.4.6 Data Analysis Procedure....126
4.5 Criteria for Research Quality Evaluation....129
4.6. Ethical Considerations....131
4.7 Summary....133
Chapter Five: Analysis of Themes....135
5.1. Introduction....135
5.2. Document Analysis....135
5.2.1. Government Policy on Identification....136
5.2.2. Institutional Structure....136
5.2.3 Approved Criteria....139
5.2.4 In-Service Training....140
5.2.5 Section Summary....141
5.3 Analysis of Interview Data....141
5.3.1 Perspectives on the Education Policy....142
5.3.2 Perceptions on the Education System....143
5.3.2.1 Teacher-Related Issues....143
5.3.2.1.1. Lack of Qualified Teachers in the Selected Region....143
5.3.2.1.2. Lack of Specialised Teachers....145
5.3.2.1.3. Pressure on Teachers....147
5.3.2.1.4. Types of School....148
5.3.2.2 Resources....149
5.3.2.2.1. The lack of Facilities....150
5.3.2.2.2. Budget....151
5.3.2.2.3. Teacher/Student Ratios....152
5.3.2.3 Administrative and Regulatory Issues....152

5.3.2.3.1. Role of the DoE 153
5.3.2.3.2. Supervision of Schools 153
5.3.2.4 Motivation 154
5.3.2.5 Section Summary 155
5.3.3 Perspectives on Pedagogy 155
5.3.3.1 Selection Criteria 155
5.3.3.1.1. Nomination of Gifted and Talented Children 156
5.3.3.1.2. Role of Teachers 157
5.3.3.2 Assessment 158
5.3.3.3 Curriculum 159
5.3.3.4 Research 160
5.3.3.5 Section Summary 160
5.3.4 Perspectives on Socio-Cultural Issues 161
5.3.4.1 Family 161
5.3.4.1.1. Number of Children 161
5.3.4.1.2. Low Level of Education 162
5.3.4.1.3. Materialism 163
5.3.4.1.4. Relationship Between Home and School 163
5.3.4.2 Social Conservatism 165
5.3.4.3 Science versus Culture 166
5.3.4.4 Religion 167
5.3.4.5 Section Summary 168
5.4 Chapter Summary 168
Chapter Six: Discussion 171
6.1. Introduction 171
6.2 Perspectives on Saudi Educational Policy 172
6.3 Education System-Related Issues 174
6.3.1 Teacher-Related Issues 175
6.3.2 Resources 179
6.3.3 Administrative and Regulatory Factors 182
6.3.4 Motivation 183
6.4 Perspectives on Pedagogy 185
6.4.1 Selection Criteria 185
6.4.2 Assessment Method 188

6.4.3 Curriculum 189
6.4.4 Research 190
6.5 Perspectives on Socio-Cultural Issues 191
6.5.1 Family 191
6.5.2 Social Conservatism 192
6.5.3 Science versus Culture 193
6.5.4 Religion 194
6.6 Chapter Summary 196
Chapter Seven: Conclusion 199
7.1 Introduction 199
7.2 Summary of the Study 199
7.3 Summary of the Main Findings 200
7.3.1 RSQ 1: Policy Challenges 200
7.3.2. RSQ 2: System-Related Factors 201
7.3.3 RSQ3: Pedagogical Challenges 202
7.3.4 SRQ4: Socio-Cultural Challenges 204
7.4 Contributions and Implications of the Study 206
7.4.1 Theoretical Contributions and Implications 206
7.4.2 Practical Contributions and Implications 212
7.5 Limitations of the Research 214
7.6 Suggestions for Further Research 215
7.7 Concluding Remarks 216
References 218
Appendices 239
Appendix A: Interview Guide 239
Appendix B: Sample Extract from Research Notes 240
Appendix C: Research Approval 243
Appendix D: List of Interview Participants 244
Appendix E: Consent Form 245
Appendix F: Ethics Disclaimer 246
Appendix G: Confirmation of completion of research 247

List of Figures

Figure 1: Map of Saudi Arabia (Gifted Phoenix, 2014) 21
Figure 2: Spending by Sector (Jadwa Investment, 2013) 25
Figure 3: Male and Female Enrolment in General Education (UNESCO, 2014) 26
Figure 4: Renzulli's Three-Ring Conception of Giftedness (Renzulli, 2005a) 62
Figure 5: Nebraska Starry Night: individual record sheet (Eyre, 1997, 32-33) 78
Figure 6: A Practical System for Identifying Gifted and Talented Students (Renzulli, 2014) 80
Figure 7: Conceptual model of giftedness/talent identification Source: Based on Renzulli (1984), Sternberg (2004), Alamer (2010, 2014), Aljughaiman and Grigorenko (2013), Al-Makhalid (2012) and Al-Qarni (2015). 94
Figure 8: Organisational structure of the General Department for the Welfare of the Gifted Boys and Girls 138
Figure 9: Process and sources of challenges in the identification of gifted and talented children in the selected site 208

List of Tables

Table 1: Intelligence levels (Source: Gross, 2000) 41
Table 2: Intelligence levels by percentage of the population (Mandelman et al., 2010). 41
Table 3: A Summary of the Seven Cognitive Components of Gardener's MI Theory 55
Table 4: Distribution of Participants 124
Table 5: List of Codes, Categories and Themes 128

Chapter One
Introduction

In many countries worldwide, governments and educationists are interested in the identification of gifted and talented children in order to make special educational provision for them (Mandelman et al., 2010). The assumption underlying this interest is that identifying and providing for such children is necessary, both for the children's fulfilment and in order to benefit from their expected contribution to their country's economic and social development (NAGC, 2009; Al-Garni, 2012). Saudi Arabia is one of those countries whose governments have expressed an interest in identifying gifted and talented children, and in 1999 the government initiated a national project for this purpose (Al-Nafaa, 2000). This project is defined more fully in Chapter Two (Section 2.6) while additional information on the official bodies, institutional structure and procedures associated with the project can be found in the review of government documents in Chapter Five (Section 5.2).

The central purpose of this study is to identify the challenges faced in the identification of gifted and talented children in boys' primary schools in the selected location in the Kingdom of Saudi Arabia (KSA). The researcher investigated the perceptions of teachers, policy makers and parents on a number of issues identified in the literature (see Chapter 3, Section 3.7). A case study strategy was followed, in which semi-structured interviews with staff at the Centre for the Gifted and Talented in the selected location were conducted, as well as with teachers in four boys' primary schools and parents of gifted boys in order to explore how systemic, pedagogical and socio-cultural factors impact on the initial process of the identification of gifted and talented boys and to explore the possible ways in which these challenges can be met and the difficulties solved.

1.1. Background

> There is no universally agreed definition of students who would be assessed as Gifted and Talented. Some accepted terms are genius, abler, exceptionally able, very able, gifted and talented, bright, virtuoso, and a high flyer (NCCA, 2007: 7).

Both the terminology used and the definitions of the concept of giftedness and talent are highly contested, as discussed in Chapter Three (Section 3.2). However, for the purpose of this research, the author has used the term "Gifted and Talented''. The term gifted is often

used alone in Saudi Arabia but there are, for example, Centres for the Gifted and Talented (discussed in Chapter Two, Section 2.6). The term is defined by Aljugaiman and Ibrahim (2009) to mean children who either display a remarkably high level of performance or those who have the potential to accomplish a level substantially beyond the remainder of their peer group. The reason for taking this as a preliminary working definition is that it accords with the researcher's experience, as a former private school teacher and later lecturer in the Department of Educational Psychology, of the terminology and understanding in common use in Saudi Arabia (Ministry of Education, 2013a; Mawhiba, 2016).

Whatever the terms and definitions used in a particular education system, many governments and scholars take the view that gifted and talented children are one of the resources on which a country's future depends, and that appropriate provision for such children is an investment in the development of society (NAGC, 2009). Such a view has been taken in Saudi Arabia, since it was first expressed in education policy in 1970. However, according to Al-Nafaa (2000), despite this early expression of interest, systematic programmes to identify and support gifted and talented children were lacking. There were a few isolated projects, but there was no institutional framework for the organisation of efforts in that area. It was not until 1998 that interest in supporting gifted and talented children began to grow. This interest led to Saudi Arabia's Ministry of Education establishing an initial project, announced as the ''Saudi project of talent search'' (Al-Nafie, 2001) and setting up King Abdulaziz and his Companions Foundation for Giftedness and Creativity (Mawhiba) as a reference authority in identifying and developing gifted and talented children (Aljughaiman & Ibrahim, 2009). Later, the Ministry established an institutional structure for the current paradigm in identification, referred to as the National Project for Identification and Welfare of Gifted and Talented Children (see Chapter Two, Section 2.6), also referred to as the ''Gifted and Talented Project''. The project is headed by the General Department for Gifted Students (GDGS) which runs programmes that specialise in the recognition of gifted and talented children (Bondagjy, 2000). These programmes are carried out via Centres for the Gifted and Talented under each of the 42 regional education departments to provide education and services for gifted students, including testing of nominated students, provision of enrichment programmes, development of new teaching strategies and pilot experiments (Al-Qarni, 2010).

1.2. The Research Problem

Although the Saudi government has expressed concern to identify and nurture gifted and talented children, as indicated by the above initiatives, in recent years, Saudi authors have expressed concerns about the effectiveness of this policy. For example, Alamer (2014) alleges that there is a gap between policy and practice that does not seem to be decreasing. He expressed concern that the strong focus on "regular" students in Saudi schools could result in the neglect of the gifted and talented. Meanwhile, Al-Qarni (2010: 79) notes the lack of information by which to monitor implementation of the policy across the Kingdom. He states

> There is no statistical information on enrolment of the gifted available within the Ministry of Education records. Such a concept of gifted teaching has only been in place for about ten years. This is due to the way in which the Ministry of Education is organised at the district level. Some districts have been assessing gifted students since 1998 while others started later.

Bondagjy (2000) criticised the early efforts to identify and provide for gifted and talented children, based on capacity to provide for the number of children whom he assumes should be identified as gifted and talented. He assumes that the gifted and talented constitute 2% of the population, although it is not clear on what basis he makes this assumption. As will be seen later (for example, the analysis of government policy documents in Section 5.2) several criteria are applied in Saudi Arabia, for different purposes. Bondagjy's (2000) estimate would mean that, of approximately 4 million schoolchildren in the Saudi population, around 80,000 would be gifted and talented. However, Bondagjy (2000) among others, including Al-Qarni (2010) suggests that hundreds of potentially gifted and talented children in Saudi Arabia do not receive appropriate education, one reason being failure to identify such children at an early age.

However, as Mandelman et al. (2010) point out, the percentage of children considered as gifted and talented depends on how giftedness and talent are defined, and the criteria used for assessment. These in turn depend on the theoretical and ideological stance of the state concerned. For example, there is a contrast between the elitist view that sees giftedness as present in only a very small proportion of the population (Plomin & Craig, 2001), and an egalitarian view that prefers to focus on maximising the potential of all students (Borland, 2005) (these issues are discussed further in Chapter Three). In Saudi Arabia, the recent focus on giftedness and talent may conflict with the principle of 'education for all', the slogan on

which the Saudi education system in its current form was established (Rugh, 2002). The original focus was on providing a similar level and quality of education for everyone. Now, some children identified as gifted and talented have additional resources and programmes. An example is staff-student ratios; in this study, there were around 8 people in a gifted class, compared to nearly 40 in general classes, and the gifted classes had more facilities such as computers (see Chapter Five, Section 5.3.1). Moreover, a look at Saudi policy documents (Ministry of Education 2006, 2013a, 2013b) suggests some ambiguity in the concept of giftedness and talent, as indicated in Chapter Five, Section 5.2.

Saudi educationists, moreover, have claimed that the system for gifted education as a whole faces challenges related to incomplete policy, systemic weaknesses including poorly trained and unqualified teachers, pedagogical issues such as a rigid curriculum that restricts teachers' choice of activities and approaches and socio-cultural factors including reluctance to allow individuals to stand out as different (Alamer, 2015; Aljughaiman & Grigorenko 2013; Al-Qarni, 2010). These are discussed further in Chapter Three, Section 3.7. However, these authors did not specifically address the identification of gifted and talented children, so it remains unclear, in the Saudi context, whether or how such issues may challenge the identification of gifted and talented children. Indeed, Alamer (2014) explicitly highlights the lack of attention paid to issues of identification of gifted and talented children. It is important for such research to be conducted, not only for the sake of effectively implementing government policy, but also because Saudi Arabia is a distinctive context which may pose special challenges that need to be understood. As Al-Qarni (2010: 92) argues:

> The area for gifted students in Saudi Arabia still borders on the nebulous and is still incompletely defined. It is delivered in a culture that is conservative and is not easily interpreted within the paradigms used more frequently in Western educational analysis, to the extent that both the methodologies applied – both qualitative and quantitative – suffer from the uncertainties of translation of cultural perceptions and social divides.

This study, therefore, responds to those concerns by exploring how a range of factors, identified from the literature review in Chapter Three, may pose challenges to the identification of gifted and talented children.

1.3. Aims and Objectives of the Study

The primary aim of this study is to investigate the issues and challenges faced in the identification of gifted and talented boys in primary schools in a selected region of KSA. As the education sector is strictly segregated by gender in the KSA, access to female participants to take part in research interviews was not possible. Consequently, the author focused this study on gifted and talented boys in primary schools.

Moreover, given the large area of Saudi Arabia and the impracticality of covering the whole country, alongside the difficult terrain (mountainous and desert areas) and transport issues, as well as the concern to obtain deep, rich insights in an authentic setting (see Chapter 4, Section 4.3), this study focuses on a single region, which is introduced in Chapter Two on the research context.

More specifically, the objectives of this study are as follows:

- To explore the policy-related challenges faced in the identification of gifted and talented boys.
- To explore the systemic challenges faced in identifying gifted and talented boys.
- To explore pedagogical challenges of identifying gifted and talented boys.
- To explore the socio-cultural challenges in the identification of gifted and talented boys.

These were chosen as the areas of focus because they are the areas identified in previous Arab literature as areas posing challenges to the education system in general, and gifted education in particular (Aleisa, 2009; Al-Garni, 2012; Alamer, 2014). Policy issues refer to government definitions of gifted and talented, identification criteria, rules and regulations. Systemic issues include the number and training of teachers, infrastructure and facilities. Pedagogical issues include teachers' classroom practices, while socio-cultural issues include religion, family characteristics, and resistance to innovation. Previous Arab literature on these themes is reviewed in Chapter Three, Section 3.6. There are, of course, many other factors that could have been explored, including historical, political and developmental. Indeed, the researcher was open to the possibility of adding further lines of enquiry as the study progressed. In practice, however, the above-maintained areas proved sufficient to cover all the issues identified in the study. Focusing on the four related themes, moreover, allows the possibility of comparing the findings of this study with the existing body of Saudi literature in order to clarify the relevance of the themes to the neglected area of identification of gifted and talented boys.

The following section looks at the research questions established in order to assist in exploring the issues around the identification of gifted and talented boys in the selected location of KSA and the associated challenges.

1.4. Research Questions

The primary purpose of this research is to examine the challenges faced in the identification of gifted and talented children in the selected location of KSA. Based on the aims and objectives articulated in the preceding section, and the issues identified in the literature review, the following specific research question and sub-questions cover the primary research concerns. The study attempts to answer the following questions based on the research gap that is mentioned above.

- What are the challenges faced in the identification of gifted and talented boys in primary schools in the selected region of, KSA?

This question is addressed through four sub-questions, as follows:

- What are the policy challenges faced in the identification of gifted and talented children?
- What are the pedagogical challenges faced in the identification of gifted and talented children?
- What are the systematic challenges faced in the identification of gifted and talented children?
- What are the cultural challenges faced in the identification of gifted and talented children?

1.5. Significance of the Study

This study offers an original contribution to research in the area of giftedness and talent, because the challenges to identifying gifted and talented children have, to the best of the researcher's knowledge, not been studied previously in the Saudi context. As indicated above, and discussed further in Chapter Three, Section 3.7, previous Saudi authors have made claims regarding gifted education as a whole, but have often done so in largely theoretical terms and without specific focus on the identification of gifted and talented children. This study not only addresses this under-researched issue, but also gives a voice to people whose perspectives are rarely heard: the, teachers and parents who implement or experience the identification at local level.

The research has the potential to contribute to knowledge in a number of ways. Most discussion of issues in identification of giftedness and talent, and reports of state practice, come from Western contexts (Jaffri, 2012), yet some authors have argued that ideas of giftedness and talent are culture-specific (Mandelman et al., 2010). As Heller (1993) points out, cross- cultural studies provide important information on social and cultural influences on the development of giftedness and talent, and of nurturing or constraining factors. This study will help in identifying the conceptualisation of giftedness and talent and identification practices, in a novel and distinctive context. In so doing, it will contribute to understanding of the kinds of country-specific factors that are influential in the identification process and further inform the ongoing debate on how gifted and talented children can be identified. In this way it challenges universality assumptions and adds support to the cultural relativism hypothesis (Heller, 1993).

In practical terms, this study may help to inform debate and policy-making on the identification of gifted and talented children. Since the research is a case study of limited scope, it is not appropriate to make specific recommendations for developing or changing practice, as the evidence base is not large enough. Although it might be possible to make recommendations for the selected location, Saudi Arabia has a centralized system that is meant to be uniform across the country. Any changes for the selected location would have to be agreed by the MoE. In practice, it would be difficult to make changes for a single region. Nevertheless, if certain perceptions and conditions are found in one education authority, it is at least possible that they may exist elsewhere – by highlighting them, then, this study opens up the possibility for further consideration of these issues. Moreover, while the study cannot claim generalisability, the findings may, on the principle of transferability (see Chapter Four, Section 4) be of interest to other regions in Saudi Arabia and elsewhere that may be similarly interested in identifying gifted and talented children, and facing similar challenges.

1.6. Organisation of the Thesis

This chapter has provided an explanation of the background and motivation for this study, identified the research problem and the questions it addresses, and highlighted the significance of the study. The remainder of the thesis is organised in a further six chapters, as follows.

Chapter Two sets the research in context by providing information on Saudi Arabia and its education system, with particular reference to Islamic views on giftedness and talent, and the

recent policies of the Saudi government with regard to identifying and providing for gifted and talented children.

In Chapter Three, literature on giftedness and talent is reviewed, with the aim of building a conceptual framework for the research. Various definitions and culturally–specific understandings of giftedness and talent are discussed, as are cognitive and alternative theories that have implications for the concept and identification of giftedness and talent. After identification of the theories considered most useful for this study, the chapter goes on to discuss criteria and practices used in identifying gifted and talented children, based on theory and on reported practice in selected countries. Previous Arab writings on challenges in gifted education (although not necessarily the identification process specifically) are also introduced. The chapter ends with the presentation of a conceptual model reflecting the implications drawn from the literature review, which guided the framing of the research questions and the interpretation of the findings.

Chapter Four provides an account of the research methodology, including its philosophical underpinnings. The research employed a case study strategy located within the interpretivist/constructivist paradigm. The justification for using this strategy is explained and the case (the system of identification of gifted and talented children in the selected location) is introduced. The chapter goes on to discuss the three forms of data used: government documents, semi-structured interviews, and research notes, sample selection and implementation procedures. The chapter ends with a discussion of the criteria applied for the evaluation of research quality, and ethical considerations.

The fifth chapter contains a descriptive account of the research findings, beginning with an analysis of the policy documents reviewed. Then, the interview data are presented thematically, under four main categories: policy challenges, systemic challenges; pedagogical challenges (particularly those related to the identification procedures themselves); and socio-cultural challenges related to family circumstances, societal attitudes, and the influence of religion.

Chapter Six draws together the findings from the different sources of data under the same four main categories in Chapter Five and links them to the contextual factors described in Chapter Two, and the literature reviewed in Chapter Three. The thesis concludes in Chapter Seven with a summary of the research findings related to each research question, and their implications for theory and practice. In presenting these contributions and implications, the

chapter offers a revised model of the process of identification of gifted and talented children in the selected location, building on the one in Chapter Three, that better reflects the findings on how the identification of gifted and talented children takes place in the Saudi context, and how various challenges affect different stages of the process, The concluding chapter also contains a discussion of the limitations of this study, and ends with suggestions for further research.

Chapter Two
The Context of Gifted and Talented Boys in Saudi Arabia

2.1. Introduction

The objective of the present study is to explain the challenges faced in the identification of gifted and talented boys in the selected location. In order to understand the current challenges faced, it is necessary to have an understanding of the context in which the identification of gifted and talented boys takes place.

To gain an understanding of the educational system and policy in the Kingdom of Saudi Arabia and how they relate to the identification of the gifted and talented, it is useful first to look at the factors that have influenced it. These include historical, socio-cultural, religious and economic factors, which have all contributed to shape the education system employed today. In order to facilitate such an understanding, this chapter provides background information on Saudi Arabia and the research location. The Saudi education system and key influencing factors are introduced, with specific reference to the Kingdom's recent interest in, and provisions for, the identification of gifted and talented children. The chapter begins with general background information, then outlines the structure and main features of the education system. Education policy is discussed, in order to provide insight into the objectives and principles underpinning the education system and the government's thinking on giftedness and talent. Provisions for the identification of gifted and talented children are then outlined. Following this, teacher preparation and pedagogy are discussed. The chapter ends by considering how cultural factors, particularly religion, have contributed to shaping education in general in Saudi Arabia. The potential implications of these influences for the identification of gifted and talented children will be considered later, in Chapter Three.

2.2 Background of Saudi Arabia

Although the Kingdom of Saudi Arabia has roots that go back thousands of years, it has been united under this name only since 1932 (Al-Makhalid , 2012). The Kingdom of Saudi Arabia lies in South Western Asia (see figure 2.1), it close to the meeting point of Asia, Africa, and Europe. It is the 14th largest country in the world by area, and the largest country in the Arabian Peninsula occupying four-fifths of this area with a total area of approximately

810,000 square miles or 2,149,790 square kilometres (International Amarican Council, 2013). Its geographical location is an important factor, given that it is the world's largest exporter of oil (Ararat International, 2012), and one of the largest producers of petrochemical products in the world. Saudi Arabia has the second largest reserves in the world (OPEC, 2012). These resources have, since the 1970s, brought considerable revenues to the Kingdom, enabling the government to finance rapid socio-economic development, including the expansion of education (Cordesman, 2003). As a result, what was once a nomadic subsistence society (approximately 70% of the population), has been transformed, with a literacy rate close to 80% (CIA, 2015).

Figure 1: Map of Saudi Arabia (Gifted Phoenix, 2014)

The official language of the Kingdom of Saudi Arabia is Arabic, while the official religion is Islam; therefore, Arabic and Islam are the core of Saudi education and all other aspects of Saudi life (Motoally, 2004; Al-Gathami, 2009).

The Kingdom's population is almost 29 million (Saudi Embassy, 2013) of which around 30% 8.5 million are foreigners, as a result of reliance on migrant workers. Males constitute 54.3% of the population, while females account for 45.7% (Escobedo, 2013). More than 60% of

Saudi Arabia's native population is below the age of 19, accounting for an estimated 13 million; around 9 million of those are of school age that is between the ages of 6 and 18 years old (Saudi Embassy, 2013). Saudi Arabia's expenditure on education is ranked the 28th in the world as a proportion of GDP (6.8%) (CIA, 2015).

The young population structure of the Kingdom of Saudi Arabia, the concern to reduce reliance on expatriates, and accession to the World Trade Organisation (WTO) (bringing greater integration into the world economy) have created challenges in terms of the requirements for development. The government is keen to create employment for Saudis, and to ensure the population has the skills needed for the country to compete in the global market. For this reason, a formal programme to identify gifted and talented children and support their education was established in 1999 (Al Nafa'a, 2000). This is introduced later in this chapter and discussed more fully in Chapter Three (Section 3.5).

2.3. The Research Location

The selected site is located in the north-west of Saudi Arabia. It ranks 7th in Saudi Arabia in terms of area (120,000 km^2) and 8th in terms of population (600, 000). The region is noted for its agricultural production and also as a popular holiday destination. The research location itself is the regional capital and administrative centre and is surrounded by eight smaller cities and towns. The city centre features old buildings and some disadvantaged districts. On the outskirts, however, are wealthier residential areas with new buildings.

According to recent statistics (Ministry of Education, 2016), across the region there are 364 boys' primary schools, with a total of 3325 teachers, 2223 classrooms and 550 non-teaching staff (secretaries etc.). Primary schools are of three types: Quranic schools, which follow a distinctive curriculum with a special focus on Islamic studies; special schools for children with severe or multiple disabilities, and general government schools. Government schools are divided into public and private. Private schools are still classed as government schools because they are supervised by the Ministry of Education and must follow the Ministry curriculum. Within the selected location itself, there are 122 boys' primary schools. Thirteen of these have a special class for gifted and talented children, with a gifted education teacher, who acts as a giftedness co-ordinator.

2.4 Saudi Education System

According to the Ministry of Economy and Planning (2010), the government sees education as the foundation for the country's development, leading to emphasis on the development of the education system in successive national development plans (these have been issued every five years since the 1970s).

Islam is a cornerstone of the Saudi education system. Saudi Arabia takes very seriously its position as the heartland of Islam and the location of two of its holiest sites: the Kaaba in Mecca and the Prophet's Mosque in Medina. The Kingdom has adopted Islam on the basis of its constitution and the guiding principle of its education system (Bowen, 2008; CIA, 2015). This is reflected in education policy, which states that the purpose of education is to instil a proper understanding of Islam and to equip students with abilities that will enable them to participate in global society and share in spreading the message of Islam (Stalinsky, 2002).

Saudi Arabia's education system was formerly a traditional one, restricted to reading, writing and recitation of the Quran. It was only in the major cities that children had access to higher education, and then only in religious studies. At the end of the 19th century in the provinces of Hejaz and Al-Asha (which at that time were ruled by the Ottoman empire) modernised education systems began to emerge. Towards the beginning of the 1920s, a number of private schools were established in larger cities, offering subjects other than religious studies. However, it was not until the 1930s that a formal system of education was sponsored by the new Saudi state, and it was originally for boys only. Formal schooling for girls was not established until 1960 (Al-Sarbla et al., 2004)

The Kingdom of Saudi Arabia's educational system is a complex one. Up until recent years, there were five parallel systems, apart from international and private schools, along with Saudi schools of various levels abroad. The Kingdom of Saudi Arabia's government has centralised the administration of education and has dictated the national educational policy (Al-Agla, 2001; Motoally, 2004). General Education is the responsibility of the Ministry of Education, which was established in 1953. It is responsible for providing free education for both boys and girls at all stages from pre-school all the way through to secondary school. Writers on Saudi education invariably note the centralisation of control by the Ministry of Education (MoE), such that the curriculum is synonymous with the official textbooks issued by the MoE (Aleisa, 2009). Teachers are required to adhere rigidly to this curriculum (Al-Buhairi, 2015) and their compliance is monitored by educational supervisors (Alhodithy,

2009). In addition to state schools, there are private schools, including some run by foreign agencies, but these, too, are supervised by the MoE and must follow the stipulated curriculum, although they may offer additional courses (Al-Buhairi, 2015). There is little or no autonomy at the school level (Alzaidi, 2008). Moreover, international observers have criticized the overloaded and rigid curriculum (Booz, 2010; Rugh, 2002).

The Ministry of Education also employs numerous regional education agencies who are responsible for the supervision of public schools within their region (Ministry of Education, 2009). In addition to the above roles, it is also responsible for providing and overseeing teacher training, special education (which includes education for gifted and talented children) and adult education.

Whilst the MoE is the main government body responsible for general education – and the most relevant for this study – two others oversee specific branches of education. The Ministry of Higher Education, which was established in 1975, is responsible for higher education, including scholarships, supervision of universities and academic offices overseas (Al-AbdulKareem, 2004; UNESCO, 2011). As of 2010, the Kingdom of Saudi Arabia had 24 public universities and 34 technical colleges (Clark, 2012). The General Organisation of Technical Education and Vocational Training is responsible for industrial, commercial and agricultural education, technical training and commercial training in 98 vocational training centres (Al-AbdulKareem, 2004; Clark, 2012; UNESCO, 2011).

In recent years, the Ministry of Education's strategic plan has emphasised the requirement for education to provide the knowledge needed to meet the country's development needs and its aspiration to keep abreast of developed counties. The Ministry's declared plan is to create a comprehensive education system, with the assistance of highly skilled and qualified teachers who are capable of delivering pedagogies that are able to meet the goals of growth and development of the state (Ministry of Education, 2009). The Saudi government has also prioritised education in its annual budget, increasing its expenditure on this sector year by year. The expenditure for 2014 and 15 (below), clearly indicates the steps the Saudi government is taking to establish and build the Kingdom's education system.

- Education expenditure 2014: 210 billion, Saudi Riyals (SR), amounting to 25% of the total budget for the year.
- Education expenditure 2015: 515 billion SR, amounting to 25% of the total budget for the year.

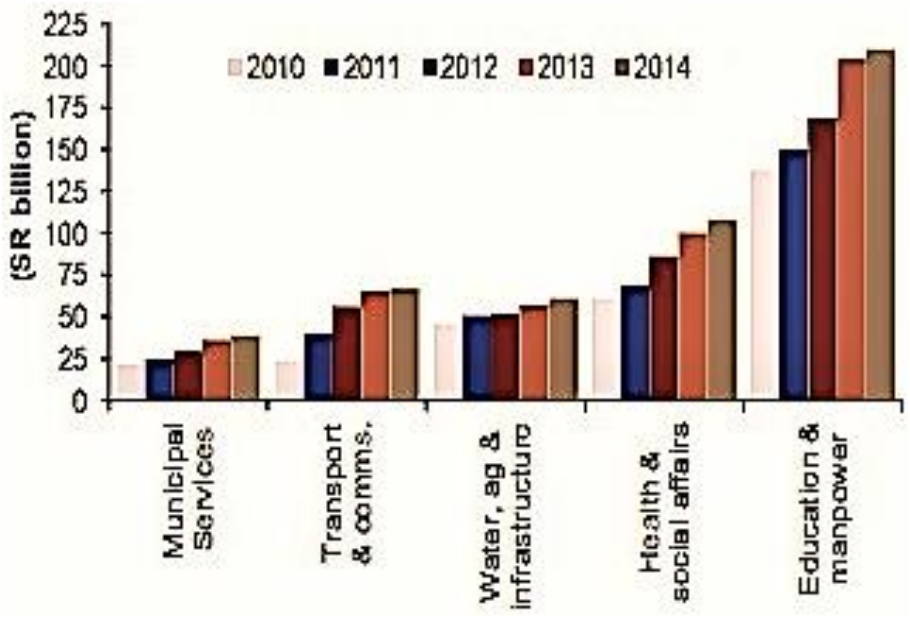

Figure 2: Spending by Sector (Jadwa Investment, 2013)

The Kingdom's education system is split into the following five stages:

- kindergarten (ages 3-6);
- primary (ages 6-11);
- intermediate (ages 12-14);
- secondary (ages 15-18); and
- university (ages 19-24).

For the purposes of this study, the focus is on the identification of gifted and talented boys at the primary school stage. The focus is on primary school because this is the period the government focused on initially (starting at Grade 4, i e age 9); because of the availability of instruments for this age group. It has only recently started to consider the early years of secondary school. The following section reviews the primary school stage and the curricula for this stage.

2.4.1 Primary School Stage and Curricula

The stage of primary school education is the only one that is compulsory for all in the Kingdom of Saudi Arabia and is also regarded as the foundation for overall educational development. This stage consists of six grade levels; it begins at the age of six and ends at age twelve. Each year is made up of two semesters; each of which consists of 15 weeks of classes and two weeks of examinations for grades five and six (Al-Makhalid , 2012). In 2015 there were 15,579 primary schools in the KSA. These figures represent an average of 183

students per school, but school size and class size vary enormously. The schools in the selected site had around 400 students each, with class sizes in excess of 30. In contrast, in a study in some remote village schools, Al-Buhairi (2015) found class sizes of only 7 or 8 with a total of 2,847,809 million pupils and 282,230 teachers (Ministry of Education, 2015c).

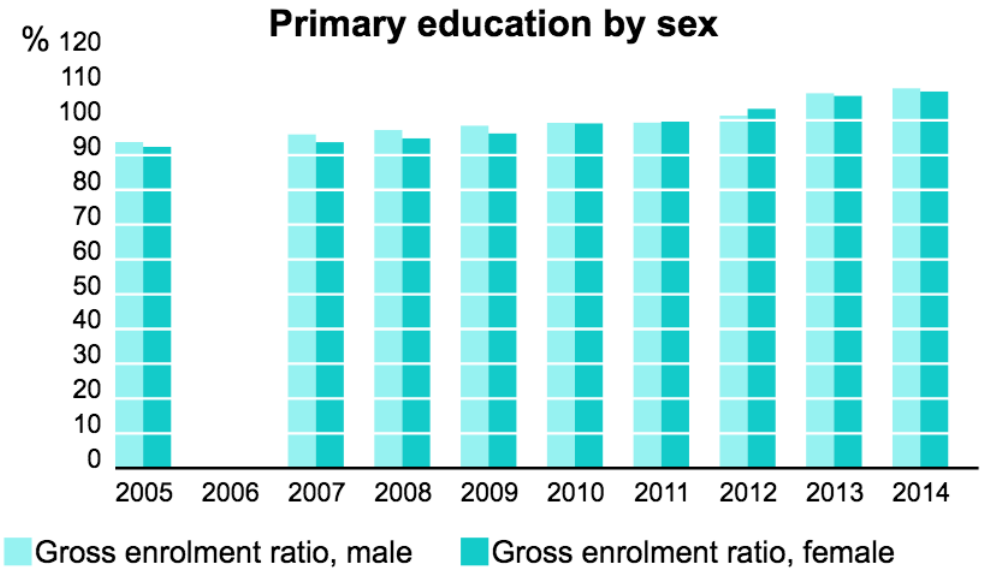

Figure 3: Male and Female Enrolment in General Education (UNESCO, 2014)

At this stage of education, the primary objectives are as follows:

- Assist children in the development of a variety of basic skills, including language, numeracy and physical abilities;
- Instil in the children the desire to learn and the motivation to perform useful work, and develop their abilities so they can make use of their leisure time in a constructive manner;
- Assist in developing children's sense of responsibility to enable them to understand their rights and duties as KSA citizens together with building loyalty towards their rulers and love for their country. (UNESCO, 2011) .

The school day begins at half past six in the morning in summer, while in the winter months, school starts at 7 am and ends at 12 noon. Pupils go to school five days a week, from Sunday to Thursday (Ministry of Education, 2009).

The standard curriculum in the KSA is studied by boys and girls in separate schools. The curricula at this stage of education include the Islamic religion, the Arabic language, mathematics, geography, history, English language and science. The curricula and number of lessons vary from one grade to another. Students study 30 hours per week for grades one to

three and 33 hours each for grades four to six. More than half the timetable is devoted to Islamic and Arabic studies. Social studies, which accounts for only 3%, is taught in grades four to six. Mathematics and science are taught from grades one to six and account for a little less than a quarter of the timetable. English language is taught for one lesson per week to children in grades four to six. Activities such as art, physical education (for boys) and domestic science (for girls) account for the remaining hours and are taught to all grades (Alamer, 2014).

In grades one, two and three, one teacher with 10 - 15 years' experience usually teaches all subjects, whereas in grade levels four, five and six, each subject has its own specialist teacher (Ministry of Education, 2009).

2.5. Education Policy in KSA

The primary objectives of the Kingdom's educational policy are to ensure the effectiveness of the education system, making sure that it meets the religious, economic and social requirements of the country, along with eradicating illiteracy among Saudi adults. There are numerous government agencies involved with the strategic planning, administration and implementation of the overall policy for education in the Kingdom of Saudi Arabia (Al-Shabi, 2013).

The education policy (reissued but largely unchanged since 1970) sets out the primary objectives, principles and goals of Saudi education, as follows:

- To provide students with an understanding of Islam in a correct and comprehensive manner;
- To spread the Islamic creed;
- To provide pupils with the teachings, values and ideals of Islam;
- To equip students with a diverse knowledge and skills base;
- To guide students' behaviour in productive directions;
- To improve the society both culturally and economically;
- To prepare students to be useful participants in the building of their community; and
- To focus on the gifted and talented and provide special programmes for them. (Ministry of Education, 2005)

The Policy Document is the basic reference for the underlying principles, goals and intentions of education in KSA. This broad document is the first indication of the government's interest

in identifying gifted and talented children and providing them with suitable programmes to aid in their development. Nevertheless, although interest in the identification of gifted and talented children was expressed as early as 1970, it was some time before practical steps were taken towards fulfilment of this intention. When the 1970 policy document was written, education was one among many areas competing for government attention in successive development plans, made possible by oil revenues. Moreover, within education, the first priority was to expand the system of basic education. It was not until 1999 that, as noted above, gifted education officially began. However, the project has gathered momentum since 2004, which was the date of the launch of a wider programme of educational development, 'Tatweer', sponsored by King Abdullah, who was monarch at that time.

In successive policy statements, the Saudi government has repeatedly stated the importance it attaches to identifying gifted and talented children and promoting their abilities by offering them special attention, to enable them to develop their gifts and talents and give them the opportunity to realise their potential (Ministry of Education, 2008).

According to Rugh (2002), the Kingdom of Saudi Arabia's government formed its policies for education under the global slogan, "Education for All". On this principle, the government thinking is that students from all backgrounds and capabilities, including those with disabilities and those with gifts and talents, should be provided with an education of a high standard and quality (Aljughaiman, et al., 2012).

This is the principle underlying the government's efforts to make provision for gifted and talented children; it regards such programmes as a right, since it assumes that gifted and talented children have needs that differ in some respects from those of their peers. The same could of course be said for other groups, and, the government has already made special provision for some other groups (e.g. learning difficulties, visual impairment, physical disabilities). It is now extending the same rationale to gifted and talented as another category of ''special need''. Between 2004 and 2008 there was a huge increase in the number of schools that implemented gifted programmes, from 29 to 700 (Aljughaiman & Grigorenko, 2013).

Provisions for the identification of gifted and talented children under this policy are discussed next.

2.6. Identification and Teaching of Gifted and Talented Children

Rule 57 of the General Document of Education Policy (Ministry of Education, 1980) asserted the importance of identifying "gifted learners" (the word talented is not used) and nurturing them with "special programmes" and "appropriate opportunities" within the public education system. Although it is clearly referred to in this rule, the targeted education of gifted and talented children is fairly new to the Kingdom. In line with the policy stated, the Saudi government in 1999 initiated the 'talent search' a project that later developed into the 'National Project for the identification and welfare of Gifted and Talented Children' and in 2004 an institutional structure was set up for implementing the project at national and regional levels (Ministry of Education, 2004). Aljughaiman and Grigoreiko (2013) argue that the system for identification and education of gifted and talented children in Saudi Arabia is not yet fully formed and is described in inconsistent terms. However, they cite the objects of the project as a) to facilitate and encourage giftedness; b) to create professional pathways in medicine environmental science; education, the arts, engineering and technology; c) to provide enriched educational activity for gifted students; d) to raise awareness of ways of nurturing gifts and talents and e) to assist in the creation of a comprehensive programme for gifted and talented students. The leading role in the identification of gifted and talented children is played by the Centres for the Gifted and Talented which provide educational and psychological assessment of children nominated by schools.

The definition of gifted students provided by the Ministry of Education in the Kingdom of Saudi Arabia is as follows:

> Those who provide evidence of unusual or outstanding performance compared with peers in areas valued by the community such as mental superiority, original thinking, academic achievement, skills and special abilities, who need to be provided with an education that public schools cannot provide as part of the regular school curriculum.
> (Mawhiba, 2016)

The Ministry of Education's operational strategy is the identification of gifted and talented pupils in public primary schools from the fourth grade upwards. In order for a pupil to be defined as gifted, he or she must first meet three of the five criteria set out and developed for the Saudi culture by the King Abdul-Aziz and his Companions' Foundation for Giftedness

and Creativity (KACFGC) (Mawhiba) and applied by the General Administration for Gifted Students. The criteria are as follows:

- Achieve academic scores in school examinations between 90 - 100%
- Score between 124 - 140 on the Wechsler Intelligence Scale for Children-Revised (WISC-R)
- Mental ability tests (unspecified)
- Score between 124 – 140 or above in the figural test from Torrance Tests of Creative Thinking (TTCT)
- Nomination of teachers

Teachers' nomination is based on observation of children's behaviour and performance in school tasks and exams, not on the criteria listed above. Chapter Three discusses the difference between objective criteria (the tests listed) and subjective (teacher nominations). Further, this study will show that teacher nomination is a first step - the objective tests come later, and are done by the Centres for the Gifted and Talented.

From the above-mentioned criteria, it is evident that the Department responsible for education of gifted and talented children has adopted identification methods practised and widely used in gifted education programmes in other countries (Alqefari, 2010; Bushnak, 2007; Mawhiba, 2016). This can be seen by referring to Chapter Three, Section 3.6.).

It is interesting to note, moreover, the variety of terminology used to refer to gifted and talented children and to their education. In general, government documents refer only to 'gifted education' and 'the gifted'. More recent documents and the names of some programmes and institutions add the term 'talented', which seems to imply an expansion of interest in a wider range of areas, such as applied or practical areas, but the Saudi documents do not distinguish between 'giftedness' and 'talent'. The appearance of 'creativity' in the name of the King Abdul-Aziz and his Companions Foundation is another point of interest. It reflects the government's claim to be interested in creativity (it also uses the term 'innovation') as an outcome of identifying gifted and talented individuals in society. However, it does not define the terms.

Amongst the strategies mentioned above, the Ministry of Education has tried to further develop strategies to enhance the processes of identification of and provision for gifted and talented children. These include:

- Enrichment of giftedness programmes for gifted students;
- Teacher training for giftedness programmes;
- Planning and organization of curricula for gifted education; and
- Finance and administration

(Mawhiba, 2016: 28).

Many of these activities are carried out by the Centres for the Gifted and Talented in each region of KSA. They provide enrichment activities and summer schools for children nominated by their school teachers, in order to offer them opportunities to develop and manifest their abilities. Enrichment programmes form an important part of the Saudi Gifted Education programme. They are defined as activities that add to or go beyond the regular curriculum and may be provided in school time on a ‘‘pull out’’ basis, or in Gifted Classes, or offered as extra-curricular programmes (Al-Qarni, 2010; Alamer, 2014).

This is regarded as a part of the identification process, as nomination of children by their teachers is only a first step and an indication of perceived potential, to be confirmed by observation of children’s performance in enrichment activities (see below) and tests at the Centre. Criteria and procedures in identification of gifted and talented children, under government policy, are discussed further in Section 3.5, and in Section 5.2 (Analysis of Documents).

A more recent development is the decision to set up “gifted classrooms” in selected schools, taught by specialist teachers, who are supposed to have knowledge and experience in the identification of gifted children and to advise their colleagues and liaise with the Centre in this process (Ministry of Education, 2015a) (see Section 5.2). There are currently 13 boys’ primary schools with such classes in the site where this study took place (Chapter 4, Section 4.4.2), three of which were visited in this study.

2.7. Preparation of Teachers and Pedagogy

The importance of teacher training to ensure that teachers have the appropriate skills and attitudes to perform their role is asserted by Alnahdi and Abdulaziz (2014). Specialist teachers of gifted and talented students have become a requirement due to the increasing demand for specialised education of gifted and talented students in the Kingdom of Saudi Arabia (Ministry of Education, 2007). This raises the question of how teachers are prepared

for primary school teaching in general, and especially how they are equipped with the required skills to enable them to identify gifted and talented children.

Over the years, teacher preparation in Saudi Arabia has gone through several changes, first to cope with the quantitative expansion of education provision, and later to upgrade quality. In the early years, individuals with only a secondary school certificate could be recruited to teach in primary schools, due to the desperate shortage of qualified teachers. Gradually, various kinds of college programmes, of various levels and durations, were established.

Currently, teacher preparation takes place in teacher colleges or in Faculties of Education within universities. Prospective teachers now typically study several disciplines in college for a period of four years. These include intensive study of the curriculum for the subject(s) they are planning to teach, and more general pedagogical skills (Al-Makhalid, 2012). It is important to be aware that a two-track system exists, in which teachers are prepared either as general teachers, or as special needs teachers; it is the latter track that includes the education of gifted and talented children. Since the two tracks are completely separate, this means that student teachers in the general track acquire only very limited information about giftedness and talent. Moreover, according to Alamer (2014), even the preparation of teachers in the Special Needs track includes only very limited reference to gifted and talented children. In order to staff the Gifted and Talented project, and particularly to set up "gifted classes", the MoE introduced a scheme to equip serving general teachers to move to gifted education (Ministry of Education, 2007; see Section 5.2). Nevertheless, writers have expressed concerns about the effectiveness of teacher preparation for their role (Alamer, 2014; Altayar, 2003).

According to Saudi educationists (Aleisa, 2009; Al-Qarni, 2010; Alamer, 2014) Saudi education in general and gifted education in particular, suffers from inadequate preparation of teachers, so that they face difficulties when they graduate from university and start to teach. During their school days, they were exposed to an overloaded and rigid curriculum, and the dominance of lecture methods and rote learning. In pre-service training, the emphasis is on this same curriculum, which they will be required to teach. Even if they have been exposed, in university, to modern thinking about teaching the emphasis is theoretical, with little or no opportunity for practice. On graduating from university, teachers enter schools, where the pressure to cover the curriculum within strict time-frame, and accountability for students' examination results, tend to constrain teachers' pedagogical choices and they perpetuate the

same reliance on lecturing and rote learning. The authors cited above do not explicitly relate their criticisms to the identification of gifted and talented children. However, the implication is that adherence to a rigid curriculum and lack of variety in teaching and learning activities may limit the opportunity for children to develop and display gifts and talents. The preparation of teachers is, however, criticised by educationists such as Alamer (2014), who argue the need to use more student-centred teaching approaches, rather than the traditional, teacher – centred, didactic style.

Altayar (2003) claims that Saudi Arabian teachers "display low levels of responsibility, passion, and enthusiasm for teaching. In addition, they possess poor skills that do not help them either in lesson-planning or in classroom management*"*. Furthermore, Khan (2011: 245) supports this, stating that

> Most of the teachers in Saudi (local or international) are not found well prepared while going for teaching as they have no ready lesson plans or even scheme of work. In addition, some of them are not very experienced or equipped to deal with situations arising in class room settings, which they haven't come across [before]

Khan (2011) goes on to note that there are currently still many teachers who have had neither pre-service nor in-service training for teachers, and he complains that they are not interested in professional development. In order to solve these issues, numerous regulations have been implemented such as a 'Test of Teachers' Competencies' along with a preparatory year for newly qualified teachers, aiming to guarantee the eligibility of teachers. Therefore, according this regulation, if a teacher shows incompetence or reluctance to teach they are required to either attend further courses or resign altogether (Alamer, 2014).

Nevertheless, concerns remain about the knowledge and practical skills of teachers, particularly in the area of the identification and teaching of gifted and talented children (Alhammed et al., 2004; Al-Qarni, 2010; Alamer, 2010, 2014), as discussed further in Chapter 3 (Section 3.6).

2.8. Impact of Saudi Arabian Culture on Education

As Aljughaiman and Grigorenko (2013) state, any system of gifted education is embedded within the education system as a whole and this in turn exists in the context of a particular society, with particular norms and values. For this reason, they argue, systems for the identification of gifted and talented children must be viewed in this broader social context.

The Saudi Arabian culture plays a significant role in the community's attitudes, including the decisions supporting specialised programmes for gifted and talented children (Alfahaid, 2002). Tomlinson et al. (1994) highlighted the complex interaction, in this respect, between teachers and society; teachers are influenced by the society in which they live, but their attitudes and beliefs also contribute in shaping society. On this basis, Al-Garni (2012) argues that, in order to promote positive attitudes in society towards specialised programmes and services for gifted and talented students, it is vital to nurture positive attitudes amongst future teachers, who will eventually influence the practices for identifying and teaching gifted and talented children (Al-Garni, 2012).

Saudi Arabia, as noted previously, is an Islamic state, in which the Sharia (Islamic holy law) serves as both constitution and legal framework. The Wahhabi interpretation of Sunni Islam is the official religion and is strictly enforced. Islam is a pervasive influence on the lives of its believers, and the main source of reference in most aspects of Saudi life. All educational policies and school systems in the Kingdom aspire to maintain the fundamental principles of Islam (Al-Muslat, 1994).

In Islam, education is one of the most important activities in society. The first revelation to the prophet Mohammed, peace be upon him (PBUH) was

> Recite in the name of your Lord who created, Created man from a clinging substance, Recite, and your Lord is the most Generous, Who taught by the pen, Taught man that which he knew not
> (*The Qur'an*, Al-a'alaq. 96: 1-5)

This revelation is regarded as evidence that acquiring education is a religious obligation.

As noted earlier, the culture in of Saudi Arabia is heavily influenced by Islam, and Islamic principles underpin educational policy and schooling in the Kingdom (Al-Hogail, 2003; Al-Gathami, 2009; Alyami, 2014). Islam recognises that individuals differ in their abilities and capabilities, reflected in numerous verses in the Holy Quran, for example 6.2 "It is He [Allah] who hath made you the inheritors of earth: He hath raised you in ranks some above others, that He may try you in the intelligence He hath given you."

This verse is taken as evidence that Islam encourages and values difference in human abilities. At the same time, it urges people to fulfil their own potential, whatever that may be. Pursuing knowledge throughout life is strongly encouraged in Islam. The Prophet

Mohammed PBUH stated: "Seeking knowledge is incumbent upon every Muslim, male and female*"* (Wafi, 1967).

Hence, learning and seeking knowledge is very important in Islamic culture, thus enabling each individual to be an effective contributor to society. The emphasis placed on learning in society and in Islamic conceptions of justice and equality go hand in hand; this implies that each and every member of society should have the opportunity to fulfil their own potential, and this, as noted previously, is the principle that underlies the government policy of ‘‘Education for All’’, appropriate to their abilities.

In line with the value attached to education, a formal education department, later upgraded to a Ministry, was one of the first governmental institutions set up on unification of the Kingdom in 1932. It is worth noting, however, the Islamic understanding of ‘equal but different’. Islamic thinking is that all people are equal in worth and responsibility before God, but that equal does not mean identical. This is evident, not only in the acceptance that some people are more able than others, but most especially in the distinction made between gender roles, which has been interpreted by conservatives (and in the light of tribal tradition) to endorse restraints on girls’ and women’s activities. However, these are beyond the scope of this thesis.

In line with these principles, the Saudi government has attempted to modernise and develop education provision (including the identification and education of gifted and talented children), while upholding Islamic values (Schoult, 2006). Examples of this modernising trend are the adoption of new technologies and a degree of openness to Western influence (Niblock, 2013).

A core role in the modernisation agenda is the promotion of the English language as a response to the increasing globalisation and privatisation of the Saudi economy (Aljugharnan & Grigorenko, 2013). English is the language of instruction in certain subjects such as medicine, at university. General education (primary to secondary) is in Arabic, but English is now introduced as a subject of study at the primary stage. Eriksson (2006) notes that the dominance of English as a world language induces a pressure to conform to the English macro-culture, while Wallace (2006) asserts the centrality of language in the thinking process, and to self-identity. She notes that the demand for second-language proficiency in educational settings has implications for children’s sense of self-efficacy. As noted above, in Saudi Arabia, this issue has not yet been raised at the primary stage, where instruction is in

children's first language. Nevertheless, Niblock (2013) reports concerns in some quarters that the modernising trend may pose a threat to traditional values. For example, he notes concerns that increased exposure to Western culture (for example, through the Internet) will weaken the sense of national identity and introduce undesirable behaviour.

2.9 Summary of Chapter

This chapter has outlined the context of the current study. The background of the Kingdom of Saudi Arabia along with the general education system was reviewed. The researcher explored the primary aims and objectives of the Kingdom's educational policy, and explained the structure of the education system, primarily focusing on the primary school stage.

This chapter provided introductory information on the education and identification of gifted and talented children in the Kingdom of Saudi Arabia, along with its development history, policy and objectives, and recent developments in the institutional arrangements for the identification of gifted and talented children. However, the chapter also showed that there are limitations in teacher preparation in this specific area.

Finally, the chapter highlighted the Islamic perspective on education in general, and giftedness and talent in particular, showing that the prevalence of Islamic values in Saudi society and in the education system should be supportive towards the identification and appropriate education of gifted and talented children, although conservatives perceive a threat to traditional values in the government's modernizing trend.

In the next chapter, literature on giftedness and talent is reviewed, in order to establish the conceptual framework that informed this study.

Chapter Three
Literature Review

3.1. Introduction

The aim of this chapter is to clarify the central concepts of this thesis, to provide a background, and to investigate what has previously been written about the research topic. This study investigates challenges to the identification of gifted and talented boys in Saudi Arabia. It is worth pointing out, however, that international literature tends to refer to gifted and talented children of both sexes – as, indeed do Saudi government policies. When referring to or quoting from such sources, the word children is used. However, as noted previously, cultural constraints on this study precluded access to girls' schools, so the empirical work and, hence, the research conclusions, refer only to boys. However, before we can identify such boys, we need to have a clear idea what we mean by gifted and talented, and what it is we are measuring or looking for. Giftedness and talent are complex concepts, about which there is a lot of disagreement. This complexity revolves around such issues as what intelligence is (Gross, 2000), whether giftedness and talent are valid concepts (Borland, 2005), whether they are innate or developed (Gagne, 2004; Sternberg, 2003), what they comprise (Marland, 1972; Gardner, 1983; Renzulli, 1984), and how they are understood in different contexts (Mandelman et al., 2010). Nevertheless, it is important to identify gifted and talented children so suitable provision can be made for them. This is important for the children's fulfilment, and because they represent a valuable resource for society (NAGC, 2009; Al-Garni, 2012).

For many years, giftedness was seen mainly in terms of high general intelligence, measured by IQ test (Brown et al., 2005). A problem with this approach is the risk of overlooking people whose gifts and talents take different forms. Other definitions recognize a wider range of gifts and talents, including artistic, sporting and emotional (Marland, 1972). This approach is supported by various theories of intelligence (Sternberg, 1993; Gardner, 1983). These have implications for the way giftedness and talent are identified, and a variety of methods are used in different contexts. These depend on the culture and education system in the country concerned, for example, whether they take a meritocratic or egalitarian approach in this respect (Mandelman et al., 2010). Some Saudi authors (Alamer, 2010; Aljughaiman & Grigorenko, 2013; Al-Qarni, 2010) claim there are problems with gifted education in Saudi

Arabia, including unclear policy, systemic inequalities between genders and disciplines, traditional teaching methods, lack of teacher awareness, and cultural disapproval of some talents and traits. Such claims provide a motivation and basis for this study.

The chapter begins with a review of the academic literature on the definitions of gifted and talented children, with an attempt to address the question of the distinction between the concepts of giftedness and talent. Then, the chapter explores the dominant theories and models of giftedness and talent, as well as emotional intelligence (EI), EI is not specifically included in the Saudi idea of giftedness and talent, although there are references (e. g. MoE, 2002) to the need for gifted and talented children to receive emotional support. Moreover, Saudi policy on giftedness is interested in personal qualities such as leadership (Aljugaiman & Grigorenko, 2013) which may be related to EI. It is included in this chapter, partly because theories of intelligence are not well known in SA; the researcher wanted to explore whether this theory has anything to offer for identification. Moreover, Mayer and Salovey (2004) claim evidence of a correlation between EI and cognitive ability. The purpose of reviewing this range of theories is to decide on the theoretical framework that informs this research. In addition, summaries of the main methods used in the identification of gifted and talented children in particular Western countries, including the United States (USA), United Kingdom (UK) and Australia, are explored. These are selected as countries with an established history of research and practice in gifted education (Jaffri, 2012), and because KSA, in developing its policies and practices in this area, has borrowed extensively from the West (Aljughaiman & Grigorenko, 2013), even though, as will be shown, there are important disconnections between aspects of Western theory and Saudi culture, which may in themselves pose a challenge to identification of gifted and talented Saudi boys. The chapter also provides a summary of the methods currently used in the identification of gifted and talented children in KSA. Finally, the challenges facing the identification of gifted and talented students in KSA are explored.

3.2. Defining the Terms ‘Gifted and Talented’

This section begins by acknowledging some of the complexities surrounding the understanding of giftedness and talent, before going on to discuss a variety of definitions, from the focus on intelligence as measured by IQ (Gross, 2000) to broader definitions encompassing a variety of cognitive and applied abilities. The discussion then addresses the controversy over the distinction or relationship between giftedness and talent.

The terms gifted and talented are variously defined by various authors. As Ambrose et al. (2012:4) note, conceptualisations range from the broad, involving varying clusters of outstanding abilities, to narrow, based on a single score in a standardised test, making the field of gifted education "fragmented, porous, and contested".

Koshy et al. (2012) similarly commented on the existence of various conceptions of giftedness and talent, based on different perceptions. The two main reasons for this include first, the complex nature of the concept; and second, the differences in the context. The complexity of the concept is reflected, for example, in the question of distinguishing between latent abilities and achievement, and in determining which abilities to include (Sternberg & Davidson, 2005; Winner, 2000). Another area of complexity concerns the relationship between giftedness and various environmental, social and emotional factors (Gagné, 2004). There is also the question whether giftedness has the same meaning for children of different ages, or between children and adults (Aljughaiman & Ibrahim, 2009). As for the second problem mentioned above, that is, differences of context, Mandelman et al. (2010) note that definitions of giftedness differ according to the nature of the education system concerned, for example, the basis on which educational opportunities and privileges are distributed. The authors focus on three types of systems: plutocracy/nepotism, meritocracy and egalitarianism, and the implications of each for concepts of giftedness. In the first type, intellectual giftedness is irrelevant, since opportunity depends on factors such as wealth or social class. In the second, there is concern to define and identify special abilities so that the identified students can receive special provision. In the third; giftedness is defined more broadly, to include many more children of diverse backgrounds. Saudi Arabia's education system was founded on egalitarian principles, reflected in mixed ability classes and a common curriculum (Alamer, 2014). There are minor differences between the school curricula for boys and girls (P.E. for boys and Home Economics for girls, respectively), reflecting conceptions of gender roles. However, in Islam, such differences are not seen as inequalities; male and female roles are regarded as different but complementary and of equal value. Students enrolled on a teacher training programme at a Saudi university were found, based on responses to an attitude questionnaire, to be resistant to the idea of gifted education (Al-Garni, 2012). Such an attitude is not unique to Saudi Arabia. Passow (1993), in a review of policies on gifted education in a variety of cultural contexts, found particular concepts of egalitarian ethics to create hostility towards the gifted and talented.

However, since the late 1990s, the KSA has been moving towards a meritocratic approach, in the sense that the government is interested in identifying children of outstanding ability, and has introduced testing for this purpose (Alqefari, 2010). As noted in Chapter Two. Saudis, as Muslims, believe that ultimately outcomes in life are determined by God. Nevertheless, they perceive that some individuals are endowed with special abilities which should be nurtured, as such individuals will potentially be important contributors to society (Ministry of Education, 2004). It therefore becomes important to consider what is meant by giftedness and talent, in order to determine how they can be identified.

Historically, the word "gifted" was first applied by Sir Francis Galton in his scientific research towards understanding this quality in individuals, which he attributed to intelligence (Galton, 1869). Lewis Terman, an American psychologist, defined "giftedness" as the topmost 1% in general intelligence as scored by the Stanford-Binet Intelligence Scale (Terman, 1925). IQ tests claim to measure general intelligence compared to others of the reference age group. The score is calculated as mental age divided by actual (chronological) age x100. A score of 100 represents the average for the age group concerned. ''Giftedness'' has generally been defined as at least 2 standard deviations above this average. ''Intelligence'' as conceived by Terman and measured by IQ was seen as one-dimensional, equated with analytical reasoning, whether verbal (focusing on language) or non-verbal (tasks using symbolism and abstract reasoning) (Brady, 2015). A similar concept was Spearman's (1904) concept of general intelligence. Some recent researchers (Plomin & Craig, 2001) still take a similar conservative view, although as will be seen later, their position is challenged by other scholars. Plomin and Craig define a group of specific cognitive abilities, including verbal and spatial abilities, processing speed and memory, which inter-correlate into a concept of general ability, equated with what is commonly called intelligence.

Indeed, giftedness has been understood mainly in terms of general intelligence since the mid-1940s and Intelligence Quotient (IQ) used as the main indicative measure in identifying gifted people (Robinson, 2005; Worrell, 2009). Even today, IQ scores remain a commonly adopted standard for defining giftedness in many countries and institutions. British Mensa (2016), for example, selects members based on IQ score in the top 2% of the population. In the USA, Borland (2009), Ford (2010) and McClain and Pfeiffer (2012) show that this approach is still popular. The appeal of **s**uch a definition is that giftedness, when defined in this way, can be tested using a standard IQ measure (Sternberg, 2004a). For instance, a student subjected to IQ tests who attains an IQ score of 130 or above is often classed as

"gifted" (Gross, 2000). Gross (2000) has also categorized intellectual giftedness in students as mild, moderate, high, exceptional and profound based on the results of their IQ scores. Table 1, below, provides a summary of Gross's categorization.

Table 1: Intelligence levels (Source: Gross, 2000)

Level	IQ Range	Prevalence
Mildly (or basically) Gifted	115 – 129	1:6 - 1:44
Moderately Gifted	130 – 144	1:44 - 1:1,000
Highly Gifted	145 – 159	1:1,000 - 1:10,000
Exceptionally Gifted	160 – 179	1:10,000 - 1:1 million
Profoundly Gifted	180+	Fewer than 1:1 million

Mandelman et al. (2010) refer to the same categories, although they explain them in terms of percentage of population rather than ratios: the top 2.5%, 1%, 0. 13%, 0.003% and 0.000003%, respectively. (Table 2).

Table 2: Intelligence levels by percentage of the population (Mandelman et al., 2010).

Level	IQ Range	Percentage of Population
Mildly gifted	115-129	2.5
Moderately gifted	130-144	1.0
Highly gifted	145-159	0.13
Exceptionally gifted	169-179	0.003
Profoundly gifted	180	0.00003

The content of IQ tests has been modified over the years, reflecting changes in thinking about intelligence. For example, the Wechsler Intelligence Scale for Children, one of the most frequently used intelligence tests for children, is now in its fifth version (WISGV) (Wechsler, 2014a) which contains 16 sub-tests that provide measures of narrow abilities, five-factor indices that estimate trend abilities (Visual Comprehension, Visual Spatial, Fluid Reasoning, Working Memory, and Processing Speed) and one measure of general intelligence (the Full-Scale Score, termed FSIQ) (Wechsler, 2014b).

In fact, as noted by Tunnicliffe (2010), defining giftedness in terms of IQ raises a number of problems and questions. There is the question of what criterion score to select and a potential problem of lack or unsuitability of tests to measure potential ability, particularly in younger children. More fundamentally, a number of scholars have questioned whether IQ is a valid measure of "giftedness" or even of "intelligence". Dweck (2000), for example, argues that the ability termed IQ and measured by IQ tests is not the same as intelligence, and that the tests lack credibility as predictors of future success. Sternberg (1993) took a similar view, seeing the notion of IQ as abstract and artificial, divorced from reality. Borland (2012:13) challenges the "widespread myths" that giftedness equates to high IQ, and that IQ is a stable measure of aptitude, arguing that these are "misguided" beliefs that lead to the misidentification of participants in many gifted and talented programmes.

Even if IQ is accepted as a measure of intelligence, it cannot capture giftedness, according to Sternberg and Grigorenko (2002b) because giftedness is more than just intelligence. Such debates reflect the significant implications of different definitions of giftedness. As will be seen later, one way of reconciling the arguments is to use the term 'giftedness' to denote intelligence as one type of exceptionality and 'talent' to denote other types. Thus, the debate highlights the potential for children to display many types of exceptionality, and raises the question of what type or types are valued in a particular society, and are therefore the focus of identification efforts.

A major concern is that IQ tests focus on abstract reasoning and neglect many other abilities that might be part of giftedness and talent (Renzulli, 2002; 2005a, b). One factor that IQ tests miss, for example, is creativity; highly creative children and adults do not always have high IQ, and those who have high IQ are not necessarily creative (Besançon et al., 2013). Moreover, according to Renzulli (2005b), although IQ has some correlation with school grades, because the abilities measured by IQ are the same kind that are valued in traditional learning situations, even so, IQ accounts for only 16-36% of variance in school grades. In other words, there must be other abilities that are also important contributors to exceptional performance. Another source of criticism is based on the claim that IQ produces unfair outcomes; Dweck (2000) talked of inequities, while Esquierdo and Arreguin-Anderson (2012) reported that ethnic minority students are disadvantaged by IQ tests, because of language difficulties, or cultural lack of familiarity with this kind of test.

Indeed, the whole concept of "intelligence'' (and hence of giftedness as exceptional intelligence) is, in fact, highly controversial. Some authors challenge the validity of giftedness as a concept. They reject the idea of innate and permanent abilities which are found in only a small proportion of the population. For example, Borland (2005) called this concept outdated, and claimed that it serves no useful purpose, but creates divisions in society. Although he does not deny that there are students noteworthy for academic excellence, the idea of "the gifted" as a discrete population who require special treatment (e.g. differentiated curriculum) is a mere social construction; the notion is not objective or based in knowledge, but varies in response to changes in values, beliefs and structural forces in society (Borland, 2012).

Claxton and Meadows (2009) also criticized the concept, saying it has damaging consequences. As a result of these arguments, some authors suggest we should not try to distinguish gifted and talented students from others. Feldhusen and Jarwan (2000) argue that distinguishing some children as gifted could lead to others, viewed as "not gifted", being overlooked (Feldhusen & Jarwan, 2000; Pfeiffer, 2012; Borland, 2012). In their view, good education should help all students to identify and develop their abilities. Along the same lines, Pfeiffer (2012) described the notion of giftedness as artificial and claimed that the idea of using IQ to test it is unhelpful. Borland (2012) expressed concern that a focus on the identification of giftedness was a distraction from what he considered a more important issue: the need and right of all children to differentiated education.

Despite the doubts expressed by some critics as to the validity of the notion of giftedness and talent, there is research evidence that some people do have exceptional gifts and talents, as evidenced by the research supporting the cognitive theories discussed in Section 3.3 (for example Sternberg et al., 2001a; Sternberg & Grigorenko, 2002b), as well as observations in schools (see the section on the identification of gifted and talented children – Section 3.6).

Nevertheless, even those who accept the concept of giftedness, such as Renzulli (2005a, b), admitted the difficulty of measuring intelligence and argued that it is not appropriate to rely on a single measure such as IQ. There are also issues such as whether intelligence is one-dimensional or has multiple dimensions (Gardner, 1983; Sternberg, 2004a, b) and if so, what these are. There is also debate about whether intelligence is innate and fixed or whether it is the product of learning and experience (Koshy et al., 2012). All these issues will have implications for the identification of gifted and talented children - for example, what to look

for, how to test or measure abilities, and whether this can be a one-time procedure, or should be ongoing. As will be seen in a later section of this chapter, more recent trends have been to see giftedness and talent as encompassing a wider range of abilities. Although IQ remains part of the understanding of giftedness, as reflected in the number of societies that still use IQ score as one of the criteria for identifying giftedness, including the USA (NAGC, 2009; McClain & Pfeiffer, 2012), Australia (Government of Western Australia, 2016) and KSA (Al-Qarni, 2010) (see Section 3.5), education authorities in various countries recognize the limitation of IQ score for understanding giftedness. IQ as the sole indictor of giftedness and talent is therefore rejected in favour of a broader set of objective and subjective criteria including creativity, subject-specific abilities and personal qualities (McClain & Pfeiffer, 2012).

Over time, broader and more complex definitions of giftedness and talented have evolved. Differences in researchers' focuses can be found, such as potential capabilities versus actual performance, and general intellectual ability versus special abilities in a specific domain (Sternberg & Davidson, 2005; Winner, 2000; Winner & Martino, 2000; Aljughaiman & Ibrahim, 2009). These different understandings are reflected in the great variety of terminology used. Freeman (1998) in a report for the UK Office for Standards in Education (Ofsted) reported over 100 terms to describe gifted and talented. In her report, she used the term 'very able' but admitted that 'gifted' was used by most international researchers. More recent UK government documents (OFSTED, 2001; DCSF, 2008) used the familiar terms, gifted and talented, but as will be seen below, there has been inconsistency in the ways these terms have been used and defined. It is also worth noting that more recently still, there has been a move away from the term, Gifted and Talented, towards 'More Able'. A recent Ofsted report uses the term 'most able', and an accompanying methodological note defines 'most able' as children who reach level 5 in the specified subject (English and/or maths) in the key stage 2 tests. Such children, the report notes, are expected to achieve at Grade B or above in that subject at GCSE (OFSTED, 2016). However, the report does not indicate how this criterion relates to other definitions used previously, or to scores in other kinds of assessment. Moreover, being based on the key stage 2 tests, as indicated above, it is limited to specific subject areas and does not include ability in other areas.

Among the 23 terms listed by Tunnicliffe (2010) related to giftedness are terms referring to the 'gift', such as talent, exceptional performance, intellectual capacity, skills, aptitude and nouns referring to the gifted child, such as high- flyer, prodigy or

genius and adjectives such as gifted, outstanding or excellent. The lack of agreement on terminology reflects different perceptions of what giftedness and talent are. The term 'high flyer', for example, is often used to denote someone who is extremely successful in one or more fields of activity, but such a person may not necessarily be regarded as a 'genius', which implies someone of outstanding innate mental gifts, possessed by a very few individuals. Different terms, moreover, are not clearly defined in literature or documentation, with a few exceptions, as in OFSTED's (2016) operational definition of 'more able', cited above. This, in turn, leads to difficulty in deciding what to look for in the identification process (Tunnicliffe, 2010).

Indeed, the definitions of "giftedness" reflect assumptions (by an individual, a school, or an education system) about ability, and about what particular aspects of ability will be supported (Tunnicliffe, 2010). This can be seen, for example, in changing definitions of giftedness in the USA in the past few decades. A very influential definition, not only in the USA, but worldwide, for many years, was the Marland definition (Marland, 1972) which referred to children with outstanding abilities who were capable of high performance and showed demonstrable achievement and/or potential ability in one or more of six areas:

- General intellectual ability
- Specific academic aptitude
- Creative or productive thinking
- Leadership ability
- Visual and performance arts
- Psychomotor ability

This broad definition would allow the term gifted to be applied to many more children than would be considered gifted by IQ alone, reflecting a wider view of giftedness and talent, and supporting arguments that a wider range of identification criteria is needed. According to Mandelman et al. (2010) this definition is popular worldwide because it is inclusive, can fit a variety of contexts and selection methods, and is not related to any specific theory or assessment approaches. The application of the definition, however, would differ from place to place, as cultures differ in their notion of giftedness, how they define it, and which theories inform their position. The contextual nature of giftedness and talent is noted by Sternberg and Zhang (1995) who defined it to refer to people with exceptional ability in comparison to peers and able to demonstrate the ability through performance or production whose benefits

are recognised and valued by society. This would mean that each society could define for itself which kinds of performance or production it regarded as valuable.

Interestingly, the word talented is included in the Marland (1972) definition ('gifted and talented' children) but there is no distinction in this definition between the terms gifted and talented. A later definition of ''gifted and talented'' by the US Department of Education (1993) cited by McClain and Pfeiffer (2012), like Marland (1972) included the potential and the achievement of children in four fields: (1) intellectual, (2) artistic, (3) leadership capacity and (3) excellence in academic fields. This definition is different from Marland's definition for two reasons. First, it does not talk about creative thinking or psychomotor ability and second, it compares the gifted and talented children (with outstanding ability) with other children of their age, experience or environment. This means that giftedness and talent depend on the context and increases the chance that a child with a disability, or from a disadvantaged background, could be recognized as gifted. This is important because one criticism of earlier approaches based on IQ, as noted earlier, was that they were unfair to minority groups (Esquerdo & Areguin-Anderson, 2012). Sternberg and Grigorenko (2002a) made a similar point regarding gifted students with learning difficulties. Comparing students only with age peers does not take account of sources of difference between them, such as language, access to resources, the specific abilities included in the test and cultural familiarity with the type of task tested, all of which might affect performance. Under the 1993 US definition (US Department of Education, 1993, cited in McClain & Pfeiffer, 2012), a child from a Hispanic background, with English as a second language, for example, should be compared with children from a similar background, to get a fair measure of his or her relative ability.

Such national-level definitions, however, may not be applied consistently. For instance, a report by the US National Association for Gifted Children (NAGC) (2009) showed that out of 47 States responding to their survey, 41 had definitions of gifted and talented students that varied. In these definitions there were features like 'intellectually gifted' (34 states), 'creatively gifted' (26 states) and 'visual and performing arts' (25 states). Another perspective from Tunnicliffe (2010) shows a recent tendency to focus more on abilities in science and technology. Definitions differ in whether or not they include talent. For example, Marland (1972) does not define talent separately, while others distinguish between giftedness and talent.

The diversity of terms and definitions raises the question whether 'giftedness' and 'talent' are the same or different. As noted previously, differences of terminology potentially imply differences in thinking about the concepts of giftedness and talent. The fact that Saudi usage (in definitions, government documents and names of various components of the gifted education system) is inconsistent raises questions as to the clarity of the understanding in the Saudi context. This is important, because before we can identify gifted and talented children, we need to know what we are looking for. We need to understand if, for example, giftedness and talent refer to latent ability and performance (Gagné, 2004), or to academic ability and practised skills (DCSF, 2009), or all of these. This will have implications for methods of identification. Answers to this question will be explored further in the next section, in order to clarify the two concepts.

3.2.1. The relationship between Giftedness and Talent

The terms "gifted" and "talented' are often used interchangeably. According to Gagné (1985: 1), "the two have no definite distinction and educators generally do not bother distinguishing the two". As Heller (1993) points out, in many languages, including German, the concepts are more or less synonymous and in a later paper, he cites synonymous use of the terms in his own work (Heller, 2000, 2002, 2004).

Clark (2002), as well as Mastropieri and Scruggs (2007), grouped them together when identifying and assessing individuals through tests and talent pool searches, while Freeman (2005) commented that gifted and talented are in the same spectrum of exceptionality. Similarly, Davis and Rimm (2004) in the United States refer to gifted and talented together when using multiple measures and multiple approaches in identifying these students.

A closely-related perspective is represented by Robeck (1968) who suggested using the term 'talented' for children with IQ score from 130-145 and 'gifted' for those with IQ above 145. However, this view does not consider the varied attributes of gifted and talented students, and it has not been widely accepted by education theorists; as in this review, no other authors were found that used this definition.

The second approach has been to view giftedness and talent as qualitatively different. For example, Gowan et al. (1979) view 'talent' as non-verbal creative abilities and 'giftedness' as verbal ones. This distinction has not been widely adopted. Another distinction made is between general intelligence or IQ viewed as 'giftedness', and special non-IQ aptitudes, termed 'talents' (Fleming & Hollinger, 1981). Such a distinction appears to be an answer to

the criticism of IQ as a meaningful and sufficient explanation of 'giftedness' referred to earlier, by invoking the term 'talent' to cover those abilities not recognised by IQ tests. More recently Gagné, in his differential model of giftedness and talent, distinguished between 'gifts' as latent abilities and 'talents' as manifest abilities (Gagné, 2004). In his definition, giftedness refers to untrained and spontaneously expressed aptitudes that would place the student among the top 10% of their age peers. Such abilities, which may be partly genetic, may appear in one or more of four dimensions: intellectual, creative, socio-affective, and sensorimotor. Manual dexterity is an example in the latter category. Such abilities are the raw material on which exceptional performance is based. In contrast, according to Gagné's framework, talent refers to systematically developed ability, knowledge or skill in a particular domain.

In other words, gifts are related to abilities and talents to accomplishments. In explaining the relationship between them Gagné (1985, 2004, 2009) suggested that gifts may develop into talents through a process of learning, training and practice. The gift or aptitude of manual dexterity, for example, may be developed into talent in such areas as playing the piano, painting or playing video games (Gagné, 2000).

The outcome of this process depends on two sets of factors: called catalysts, personal (e.g. personality, motivation, self-management and temperament) and environmental: people (such as parents, teachers and peers), significant events (such as loss of parent, or winning an award), educational provisions, as well as macro and micro-level socioeconomic and demographic conditions. Catalysts may either facilitate or hinder the process of talent development. This implies that a student with a natural ability may nevertheless fail to develop it into a talent, if hindered by unsupportive personal and/or environmental factors (Gagné, 2000).

In the UK government documents, although ''gifted and talented'' is sometimes used as a unitary term, at other times the terms are distinguished as referring to ability in different areas. For example, OFSTED (2001) defined gifted as referring to high achievement or latent ability in one or more academic subjects (meaning subjects other than art, music or PE) while talented refers to attainment or ability in an expressive art or a sport. In a recent UK government definition (DCSF, 2009) a similar basis for distinction is offered, with ''gifted'' referring to ability in one or more academic fields (i.e. reflecting general and special academic abilities) while 'talented' refers to ability in practical or applied fields. The problem

with this definition is that it suggests that giftedness and talent are two different concepts which should be measured by different criteria, yet Koshy et al. (2012) found that primary schools generally maintain a single gifted and talented register. They do not clarify whether or not the register entries label students specifically as gifted, talented or both, which is a weakness in their study. Koshy et al. (2012) suggest this definition raises questions about whether a child needs to have both academic and applied abilities to be included, or whether children whose abilities are in the creative or physical areas may be missed from the register. However, it may be argued that the problem lies in interpretation and procedure, rather than in the definition itself. The definition clearly includes abilities in the creative and physical areas, so there is no reason why such children should be omitted from the register, especially as the definition does not require students to have abilities in both academic and applied areas to be included. However, Koshy et al. (2012) found differences in practice and understanding among schools, which they suggested might be to some degree attributable to lack of familiarity with government guidance.

In the particular context of the KSA, gifted and talented students are defined by the Ministry of Education as "those who have extraordinary abilities or have a unique performance over their peers in different fields which are valued by society" (Aljughaiman & Ibrahim, 2009). It can be seen that the above definition does not differentiate between the two concepts (gifted and talented). In this respect it is similar to the earlier definitions reviewed above, such as Marland (1972). Like the majority of definitions considered here, it covers both ''abilities'' (not defined in the Saudi documents) and accomplishment. However, it is vague in the sense that it does not indicate the areas in which giftedness and talent may be manifested in a student. Clark (2006), based on a survey of international practice in identifying giftedness and talent, involving expert opinion (psychologists, lecturers and government administrators) from 32 respondents in 17 regions, sheds some light on this. She notes that Saudi Arabia was one of the seven countries (including the USA) reporting definition by a broad range of criteria, including intellectual, academic, creative, leadership, sport, and/or fine and performing arts. However, these are not spelled out in the official definitions (Mawhiba, 2016). Moreover, given the small size of the overall sample, suggesting no more than two or three participants from any given region, it is not clear how well these responses reflect thinking and practice in KSA as a whole. In its failure to provide specific indications of what abilities are considered to constitute giftedness and talent, the Saudi definition is similar to the one by Sternberg and Zhang (1995) mentioned above.

The phrase, ‘‘fields which are valued by society’’, is significant as it shows the importance of context; it implies that ability in a field that is not valued by society will not be perceived as a gift or talent, and certain abilities, which might be valued and nurtured in one society, may go unnoticed or not have the opportunity to flourish in another. This might seem to support Borland (2012) and Pfeiffer's (2012) claim that giftedness is a social construct. Such a definition has implications for this study, as on the one hand it indicates acceptance of a concept of giftedness, suggesting that there are indeed individuals with exceptional ability who can and should be identified; on the other, it raises a difficulty for identification because it does not indicate which specific gifts and talents are of interest. In this respect, the approach followed in the Marland (1972) definition, or the UK definitions by OFSTED (2001) and the Department for Children, School and Families (2009), which directs attention to specific kinds of abilities, seems more helpful, if a context-relevant list is provided.

It appears, therefore, that there is a need for a clearer understanding of what abilities are valued in the Saudi context, as lack of a clear working definition may in itself be a challenge to identification. This raises the further complexity of giftedness and talent as culturally-specific concepts, which each community defines in its own way, with implications for the validity and acceptance of identification strategies and educational provision. The diversity of cultural conceptualisations of giftedness and talent is illustrated in the next subsection.

3.2.2 Culturally-specific understandings of giftedness and talent

As the foregoing review has shown, giftedness and talent are highly contested concepts, open to a variety of definitions and understandings. Conceptualisations differ according to the values and ideology of a given society (Mandelman et al., 2010) and to the intended purpose of identifying gifted and talented individuals (Heller, 1993). The diversity and complexity of conceptualisations of giftedness and talent, both between and within societies, can be seen from literature addressing the way these concepts are understood (both in terms of which abilities are valued, and whether identification of individuals excelling in such abilities is considered appropriate and desirable) in a range of cultural contexts.

In Europe, for example, Urban and Sekowski (1993) draw a distinction between the approaches of socialist Eastern Europe and democratic Northern Europe, showing the impact of those contrasting political ideologies on approaches to giftedness and talent. In the former socialist countries of Eastern Europe, the Marxist theory of development downplayed innate, genetically-conditioned factors and criticised education policies and practices that privileged

learners on the basis of high IQ, which were seen as confirming the power of the wealthy classes. Education, it was argued, should be available and identical for all; individualised education based on students' abilities was rejected in principle, as contrary to the socialist notion of people's equality. The position was, however, slightly different in the artistic field, which was subject to less control of communist authorities, and sport, where outstanding performance could be harnessed to serve a propaganda function, on behalf of the communist state. Later, however, efforts were focused on identifying and nurturing abilities in science and technology, as well as sport, music and dance, as means to achieve superiority in international competition.

In contrast, according to Urban and Sekowski (1993), in the democratic countries of Northern Europe, the dominance of the egalitarian ethic and the view that special provision for the gifted is a means of maintaining the privilege of particular groups are reflected in a reluctance to single out specific students as especially gifted or talented. However, differentiated teaching may take place within the class framework, on the principle that every student should be given the opportunity to develop optimally.

Whilst, as the above examples show, approaches to giftedness and talent in some contexts have been shaped by political ideology, in others, economic imperatives are influential. In China, for example, according to Zha (1993), since the 1950s, a widespread systematic talent search has been favoured for identifying children with high ability in the areas needed for China's developmental priorities and agriculture, industry, and science and technology. In Zha's view, giftedness is defined in terms of a combination of intelligence or ability, creative potential and "positive personality traits" (Zha, 1993: 809). The criteria adopted for identification include cognition, creativity, the speed, style, depth and firmness of knowledge mastery, special talent in areas such as mathematics, foreign languages, leadership, drawing/calligraphy and music, and personality traits including motivation, confidence and persistence, and there is a strong reliance on the use of tests to discover those abilities.

Albeit with different foci and motivations, the Chinese approach and the various European approaches have in common a concern with individual achievement. In Africa, however, such abilities are considered less relevant to the concept of giftedness, due to the influence of a more collectivist culture, as indicated by Taylor (1993). He notes that African culture is based on the concept of "ujamaa" (familyhood, togetherness) and values "ubuntu" (humaneness, caring, connectedness). This means that individual displays of excellence (for example, in

music) are less valued than mutual participation. It also leads to community rejection of education programmes that do not place sufficient emphasis on nurturing children's social and emotional skills, such as diplomacy. The clear distinction between the African cultural concept of desirable skills and collective achievement, and the Western concept that favours individual achievement in certain forms of logical and linguistic abilities demonstrates the difficulty, and practical inappropriateness, of transferring approaches to defining, identifying and nurturing giftedness from one context to another.

This problem of failure to consider the local culture has, indeed, been raised by Yamin and Ambrose (2012) in their critique of gifted education programmes in the Arabian Gulf and Middle East. They criticize the tendency of the states in the region to borrow policies and practices, including assessment instruments from the West. However, they do not discuss what a culturally-relevant conceptualization of giftedness and talent might be.

Adding to the complexity, evidence form a variety of contexts shows that even within the same country, different communities may have different conceptualisations of giftedness and talent. In New Zealand, for example, Moltzen and Macfarlane (2006) and Reid (2006) demonstrate the difference between the traditional Maori conceptualisation of giftedness and talent, and that of the European community. The latter, driven by national and international social and economic developments, focuses on specific areas valued for technological progress and economic advancement, such as computer technology, science, economics, business and marketing, while 'soft' subjects such as history, languages and music are less valued, and this is reflected in the curriculum (Reid, 2006). In contrast, the Maori concept of giftedness and talent values a wide range of 'qualities', including spiritual, cognitive, affective, artistic, social, intuitive and creative. It is more holistic than the European tradition, and less focused on academic success. Moreover, gifts may not necessarily be individual, but "owned" by a group (Moltzen & Macfarlane, 2006). Such differences demonstrate the potential for students to be undervalued and overlooked, if the culturally-relevant abilities they possess are not valued by the dominant group. Similarly, Castellano (2006) showed how Haitian students in the USA may not be considered gifted or talented according to the predominant North American conceptualisation but may excel in skills valued by their community. Many, for example, speak Creole, along with one or more of French, Spanish and English, and the ability of code-switching between these languages is highly valued in the Haitian community, but may not accord with conventional notions of language skills in the school classroom.

Conceptualisations of giftedness and talent may also differ by social status, as Maitra (2006) illustrates in the Indian context. He notes that middle class families have high expectations for academic achievement, which inform policies and practices in elite schools. Among the poor, however, social and emotional gifts such as intuitive sense, business skills and homemaking skills that improve life for the family and community are more valued.

As these examples demonstrate, the understanding of giftedness and talent can be seen as in many ways highly context-specific, influenced by a variety of political, economic and cultural considerations. The conceptualisations adopted have different implications for identification projects, for the community relevance and acceptance of such projects, and for the opportunity for students' abilities to be recognised, valued and nurtured. All of these considerations will be pertinent to exploring and understanding the Saudi approach to the identification of gifted and talented boys, in the present study.

To summarise, this section has explored definitions of the term 'gifted and talented' as it has been used and interpreted in various contexts. The following points emerge as implications for this study:

- There is agreement in the definitions that the terms refer to possession of extraordinary ability.
- Such ability may exist in one or more domains.
- The ability is potentially demonstrated in a high level of performance that can be observed and measured or assessed. However, definitions also contain the more problematic concept of 'latent' ability. If ability is not clearly demonstrated in performance, can it be identified?
- There has been a move away from the one-dimensional view of giftedness as IQ towards recognising a wide range of abilities. The addition of the term 'talented' since Marland (1972) seems to reflect this.
- Conceptualizations of giftedness and talent vary in different cultural contexts.

The implications for this study are that giftedness and talent should be defined broadly to include the possibility of ability being manifested in a variety of areas, and therefore potentially identified in a variety of ways. These ideas contribute to inform the initial conceptual model for the research presented in Section 3.7.

In exploring definitions of giftedness and talent, it is important to consider theories of giftedness and talent. This is because different theories imply different understandings of giftedness and talent, and in turn have different implications for identification (Mandelman et al., 2010). Therefore, the next section will explore different theories of giftedness and talent.

3.3. Theories Behind the Concepts of Giftedness and Talent

As Ambrose et al. (2012) point out, there is no single theory that dominates conceptions of giftedness and talent. Areas of contestation, for example, include whether giftedness is a stable trait, and the impact of social factors. Heller (1993) suggests that literature reveals two main theoretical approaches: firstly, the psychometric, divided into static, descriptive and dynamic, and secondly, the "expert-novice" paradigm, which looks at the impact of personality and cultural conditions, giving intelligence a lesser role. He also notes a more recent tendency to combine the two approaches, viewing the relationship between abilities and performance areas as mediated by personal characteristics and environmental factors (Heller, 2004).

In this section of the literature review, the main theories behind the concepts of giftedness and talent are explored. Broadly, the theories are grouped into two main categories – cognitive theories and alternative approaches, including behavioural, motivational and emotional intelligence theories. The importance of considering theory is that different understandings of giftedness and talent have different implications for the identification of gifted and talented children (Koshy et al, 2012; Mandelman et al, 2010). It should be noted that, while all the theories are important for understanding giftedness and talent, and have implications for gifted education, some are more relevant than others for this particular study. Therefore, in Section 3.4 (Summary and Choice of Theories) the relevance of the theories for this study will be evaluated, and the theories that will inform this study will be selected, based on clear implications for identification, appropriateness to the primary school age group, and potential to take account of culture.

3.3.1 Cognitive Theories

Cognitive theories are approaches that attempt to explain human behaviour by understanding the individual's thought processes. In this review, the works of Gardner and Sternberg are explored. These are chosen because they are significant and influential contributions to the move away from the one-dimensional view of giftedness. They are explicit theories that

emphasise operational definitions based on psychological and educational theory or data, and as such can be tested empirically (Jaffri, 2012).

3.3.1.1 Gardner's Cognitive Theory of Multiple Intelligences (MI)

Gardner (1983) defines intelligence as a biopsychological ability to process information to solve problems or create valued products. His multiple intelligences (MI) theory describes how creative talents and skills relate to intelligence and suggests that humans have the potential to develop at least seven kinds of intelligence (Gardner, 1983). Gardner later added an eighth ability, called naturalistic (or environmental) intelligence (Gardner, 1999). The theory suggests that human intellect can be represented in several separate cognitive components based on three considerations: firstly, that there are distinct neurological systems supporting each of the separate intelligences; secondly, that each intelligence is reflected in distinct abilities that can be separately identified and measured; and thirdly, that the categories are small enough for activities to be analysed but large enough to cover a wide range of skills (Gardner, 1983). The theory has been relied on by many researchers and practitioners over a long period of time in the identification of gifted and talented students (Koshy, 2002; Tunnicliffe, 2010). The table below provides a summary of the original seven cognitive components of Gardner's theory of multiple intelligence.

Table 3: A Summary of the Seven Cognitive Components of Gardener's MI Theory

Intelligence Components	**Description**	**Real World Application**
Cognitive Intelligence		
Linguistic	Ability to easily distinguish verbal cues and use language to convey rhetoric, mnemonics for memory retention, and the ability to explain properly.	People with linguistic ability can be translators, writers and preachers. Children with this ability can tell original stories and report with accuracy in their own words (Ramos-Ford & Gardner, 1991)
Logical-Mathematical	Ability to discern and recognize patterns, systems and relationships as well as identify and solve problems through	People with this ability can be mathematicians, scientists, engineers, programmers and technology designers. Children

	complex reasoning process (Gardner & Hatch, 1989).	with this ability excel in calculations and counting as well as create notations (Ramos-Ford & Gardner, 1991).
Spatial – Visual	Ability to perceive the visual world accurately and to manipulate forms and objects mentally.	People with spatial abilities can be good sculptors and painters, surgeons and engineers. Children with this ability show great facility with solving puzzles and games and can exhibit attention to design elements as well (Ramos-Ford & Gardner, 1991).
Musical	Ability to enjoy, perform or compose musical specimens that allow pitch discrimination, identify musical themes and an acute sensitivity to rhythm, timbre and textures.	People with this ability can become great musicians and conductors. Children can easily notice different sounds in the environment and carry a tune (Ramos-Ford & Gardner, 1991).
Body-kinaesthetic	Ability to solve problems or create products using all or part of one's body manifested in fine and gross motor skills needed to excel in sports, performing arts like dance, and crafts production.	Children with this ability can move expressively when hearing musical stimuli or exhibit remarkable athletic ability (Ramos-Ford & Gardner, 1991).
Interpersonal	Ability to understand speech indirect and suitably respond to the temperaments, motions, motivation and desires of other people. This is people-centric intelligence that allows one to understand other people.	Children with this ability are natural leaders and organizers in class and are sensitive to the feeling of classmates (Ramos-Ford & Gardner, 1991). They can be successful teachers, politicians, therapists, religious leaders and sales people.

Intrapersonal	This is people-centric intelligence turned inward or introspectively that enables one to assess one's own feelings, motivations and ideas and to draw from them in guiding one's response to the world.	Considered the most private of all intelligences, the ability can be observed in children who can express themselves well, especially in music, visual arts and writing (Ramos-Ford & Gardner, 1991)

Gardner's theory challenged the view of "intelligence" as a single construct. It reminds educators that ability can take many different forms. The theory is attractive to educators (Klein, 1997) because it is consistent with teachers' general acceptance of individual differences (Allix, 2000) and justifies the provision of a broad and balanced curriculum (Brady, 2015). It is relevant to identification of gifted and talented children because it suggests a variety of abilities that teachers can test or observe. Nevertheless, Gardner's theory has been criticised because he did not conduct any empirical research to test that his "intelligences" are actually separate abilities (Freeman, 1998), although, as noted earlier, they are, at least in theory, capable of being operationalized in ways that lend themselves to observation and measurement. Gottfredson (2004) criticised Gardner's methodology for being descriptive and relying on interpretation of anecdotal data.

Willingham (2004) has also criticised the theory for making three separate claims about intelligence: offering a new definition; identifying many types of intelligence; and claiming that all intelligences work separately from each other. Concerns have also been expressed about the practical use of Gardner's theory. For example, Brady (2015) observes that in practice, not all intelligences will be given equal attention in observation or measurement, because some are valued more than others. As an illustration, she notes that UK educational policy values some intelligence more than others – specifically linguistic and logical-mathematical. Moreover, Jaffri (2012) notes that the abilities are subject to contextual recognition; an ability might go un-noticed if it is undervalued in a particular context. Indeed, cultural factors might affect the types of information available for processing, or the individual's response to some types of information, in terms of whether or how to act on it.

As these criticisms show, Gardner's theory is highly controversial and has been widely rejected. It has been included here because it is a theory that provides a model for recognizing that children can be gifted and talented in a range of areas, and for acknowledging the role

played by context in deciding the areas(s) identified and nurtured. Recognition of this fact calls into question the appropriateness of Saudi Arabia's borrowing of Western definitions.

Beyond the policy above, however, the theory has limited usefulness for this study. As discussed in a later section (Section 3.5, Identification of gifted and talented children) some of the abilities and characteristics mentioned by Gardner are not appreciated in the Saudi context. Music is an obvious example (Alamer, 2010, 2015) but there are also limitations regarding cultural views of some artistic activities and inter- personal characteristics. This would make the theory difficult to apply in the Saudi context.

3.3.1.2 Sternberg's Triarchic Theory of Intelligence

Sternberg (1993), like Gardner (1983), thought that there are different kinds of intelligence. However, he did not believe that giftedness and talent are innate. He suggested that they are developed through experience and environment. Thus, the display of talent or giftedness, and type of development depend not only on an innate ability but also on opportunities and practice.

This theory of intelligence is underpinned by Sternberg's (2003) belief that intelligence has less to do with success in the classroom and more to do with success in the real world. In making this distinction, Sternberg means that school success is based on test scores and school grades, often based on artificial contexts and using mainly analytical abilities. He does not deny the importance of such abilities, but comments that people who do well in school tests may not necessarily be able to come up with their own ideas or apply their knowledge in daily life (Sternberg & Grigorenko, 2002b).

Sternberg refers to the ability to achieve success in life as "successful intelligence," meaning success in applying different kinds of intelligence to achieve success in life, as defined by oneself and in one's own social context (Sternberg & Grigornko, 2002b). He identified that individuals have three types of intelligence, namely: analytical intelligence, creative intelligence; and practical intelligence (Sternberg, 2004a, 2004b). Whereas analytical intelligence basically allows individuals to process information effectively and enables them to think in the abstract, creative intelligence enables individuals to dream new ideas. Finally, practical intelligence allows individuals to find practical solutions to real problems (Sternberg, 2003). He also refers to those intelligences as componential, contextual, and experiential, respectively. The first enables people to analyse, judge, critique, compare, evaluate and explain. Creative or contextual intelligence enables people to invent, explore,

discover and generate plans and strategies. Experiential or practical knowledge is more concerned with executing plans than initiating them and is the ability to apply knowledge in highly contextualised situations. It includes tacit knowledge, which is often not directly taught and may not even be put into words (Sternberg & Grigorenko, 2002b).

Sternberg refers to these three types of intelligence collectively as the Triarchic Theory of Intelligence (Sternberg, 2004b). He argues that complete or successful intelligence involves a balance of all three types of intelligence identified above. In Sternberg's view, an individual may possess each of the intelligences in different amounts. What is important is not so much the amount of each intelligence, but the ability to balance them and the understanding of when and how to use them (Sternberg & Grigorenko, 2002b).

Sternberg's theory can help in identifying gifted and talented children, by showing different kinds of ability that teachers can look for, and his categories are broad and flexible. The theory has links with abilities that people use in everyday life and allows people with a variety of abilities apart from formal analytical skills to be regarded as successful (Brady, 2015). The validity of Sternberg's theory has been supported by studies with large samples in several countries (Sternberg & Grigorenko, 2002b). The empirical evidence relied on is the set of tests, the Sternberg Triarchic Abilities Test (STAT), designed to measure each of the three proposed intelligences using verbal, quantitative and figural tests. For example, in one study (Sternberg et al., 2001a), the STAT was given to 3278 students ranging from upper elementary to high school in the USA, Finland and Spain to compare alternative models of intelligence, using confirmatory factor analysis. The theory of successful intelligence, allowing for three interconnecting factors (the three types of intelligence) provided the best fit to the data, whereas a model featuring a single general intelligence factor was a poor fit. Other studies in other countries, such as Russia and Kenya, supported the distinction between the abilities (Grigorenko & Sternberg, 2001; Sternberg et al. 2001b).

The reported findings from the above-mentioned studies provide an answer to critics who have called into question the notion that practical intelligence is separate from general intelligence, due to what they claim is a lack of evidence. However, Sternberg has also been criticised on methodological grounds. Gottfredson (2003) claims that Sternberg only used favourable data and ignored any contrary evidence. This is not entirely true, however. In commenting on an earlier study using the first version of the STAT, Sternberg and Grigorenko (2002b) acknowledged weak correlations between

certain variables and noted the existence of method variance; in other words, they admit that the existence of correlations depended on the specific tests (for example multiple choice versus essay tests) used to measure various constructs. They subsequently developed a new version of the STAT.

Sternberg's theory has also been criticised for being hard to apply; Brady (2015) suggested it might be difficult for teachers to assess the three abilities in educational settings. This criticism, however, can be countered by the list of suggested activities related to the three types of intelligence provided by Sternberg and Grigorenko (2002b). Moreover, in addition to the STAT (Sternberg 1993), a new multi-tool battery called AURORA (Chart et al., 2008) has been developed, which may make the theory easier to apply in practice.

Despite the criticisms, Sternberg's theory is important as it is not confined to one-dimensional cognitive explanations of intelligence and allows for different kinds of abilities to be recognised. Moreover, the STAT shows that each kind of ability can be shown in a variety of ways, implying the need for a range of test activities. Sternberg also recognizes that non-cognitive factors such as environment are important, as they influence the extent to which abilities are practised and developed. This implies the need for approaches to intelligence to take explicit account of non-cognitive factors. For this reason, theories that look at other non-cognitive factors will be reviewed, in the next section.

3.3.2 Alternative Theories

A number of non-cognitive theories may have relevance to the identification of gifted and talented students. These include: Renzulli's Three-Ring Conception of Giftedness; motivational theories (i.e. attribution theory and goal/achievement theory); as well as theories of emotional intelligence (e.g. Mayer-Salovey theory of emotional intelligence). Renzulli's theory is selected as an example of the behavioural approach to giftedness (i.e. it views giftedness as a behaviour that can be observed and intuitively recognized, without necessarily relying on tests or school grades). Moreover, it contains elements that complement Sternberg's theory: creativity, which Sternberg views as a distinct intelligence, and task commitment, which links to Sternberg's view that abilities need to be developed through practice. The attribution and goal theories reflect motivation, which may influence whether and how intelligences are applied, while emotional intelligence has been claimed to correlate with other concepts of intelligence, such as IQ. All the selected theories have been influential,

extensively discussed in literature, and practically applied in various contexts, as the next section will show.

3.3.2.1 Renzulli's Three-Ring Conception of Giftedness

Renzulli (1984, 2005a, b) like Sternberg (1993; Sternberg & Grigorenko) views high ability as part of, but not sufficient for giftedness. They differ in that whereas Sternberg's is an explicit theory, making specific claims about the nature of intelligence, Renzulli's is an implicit theory, relying on a more intuitive notion of giftedness (Jaffri, 2012).

Renzulli (1984) views giftedness as a kind of developmental behaviour, rather than a characteristic children are born with. Renzulli's model is based on the interaction between three basic factors: above average ability, task commitment, and creativity. Ability can refer to general abilities (verbal abilities, memory) that are used across domains, or to domain-specific abilities. Task commitment refers to perseverance, hard work and deliberate practice (Ericsson et al., 1993; Brady, 2015). Creativity, as seen by Renzulli (1984, 2005b) can be of various kinds: having unusual and stimulating thoughts; experiencing the world in novel and original ways, or changing the culture in important ways. Gifted and talented children are those who possess the three abilities and can apply them to some potentially valuable area of performance (Brady 2015).

Basically, the model allows students to be identified according to their strengths in these three areas; but not completely on formal academic testing (Renzulli, 1984). This model has a number of advantages: first, it allows teachers the flexibility to rely on their observation and experience in the identification of students, even if they do not necessarily score higher marks on formal tests and assessments; second, it allows for the identification of students who appear to be intrinsically motivated and have strong interests and ability in particular areas; and third, it recognises the role that creativity and task commitment play (Renzulli, 1984). Writing from a teacher's perspective, Brady (2015) suggests the model is useful and accessible, and simple enough for teachers to understand and apply. The theory is represented diagrammatically below.

Figure 4: Renzulli's Three-Ring Conception of Giftedness (Renzulli, 2005a)

The main criticism of Renzulli's model is that it is not able to identify students who have above average ability and creativity, but are not committed to a particular task, or underachieve because they lack motivation (Lee-Corbin & Denicolo, 1998; Gross, 2004; Renzulli & Reis, 1994). This is because, according to Renzulli's model, all three components should be present in the gifted child. Gagné (1985) found this problematic and asked, does this mean that someone with an IQ of 130 is no longer gifted, if they lack motivation to succeed? Against Gagné's criticism, it could be argued that such a child is potentially gifted; by taking task commitment into consideration, Renzulli (1984; 2005a, b) actually provides an explanation of underachievement, which occurs when the student has ability and/or creativity, but through lack of motivation, does not show the patience and practice needed to succeed. Gagné (1985) also criticised Renzulli's (1984) model for not being domain-specific, although Gagné suggested it seemed to relate specifically to academic achievement. Gagne's view that the theory appears concerned specifically with academic achievement can be challenged, however. As Brady (2015) argues, creativity and task commitment are needed for achievement in all domains. For example, a sportsman or woman uses creativity to spot opportunities for gaining a competitive advantage, and task commitment in practising and developing his or her skills. This suggests that Renzulli's model can be applied to various

domains of ability. A third area of criticism concerns assessment. Critics have argued that it is difficult to identify or measure creativity (Gagné, 1985), or have questioned whether it is acceptable to rely on both standardised tests (to measure ability) as well as more subjective assessments (for creativity and task commitment) (Jaffri, 2012). It could be argued, however, that since Renzulli (1986; 2005a, b) takes a broad view of giftedness, a variety of assessment methods is justified and necessary.

As Renzulli's model shows, an important element of giftedness is motivation (represented in task commitment). In the next section, therefore, theories on the role of motivation and their potential relevance to the identification of giftedness and talent will be reviewed.

3.3.2.2 Motivational Theories

Motivational theories recognize that in order to realize their potential, gifted and talented students need appropriate education that allows them to excel in learning while also meeting their social and emotional needs (Gagné, 1995; Foster, 1983). Some scholars therefore argue that creating and maintaining appropriate motivation should be the objective of a gifted education programme, rather than focusing on the criteria by which an individual should be identified and selected for inclusion in that programme (Feldhusen & Hoover, 1986; Ames, 1992). It is not necessary, however, to reject the interest in identification of gifted and talented students, in order to accept the importance of motivation. An understanding of motivation could be relevant in applying Renzulli's model, for instance, by providing an explanation of why some children who have ability underachieve, as shown above. There are several motivational theories, which broadly categorise motivation into intrinsic and extrinsic motivation (Sigel et al., 1981). Intrinsic motivation drives individuals to engage in learning for its own sake. For instance, students who are intrinsically motivated engage in school work because they enjoy it and participate in learning activities for their own pleasure. On the other hand, students who are extrinsically motivated engage in their studies to obtain rewards such as good grades and the approval of their peers, parents and teachers (Wiseman & Alromi, 2007). Intrinsic motivation is reportedly an observed characteristic of gifted and talented children (Csikszentmihalyi, et al., 1997; Callahan & Miller, 2005). In this review, the two motivational theories explored further are attribution theory and achievement goal theory.

3.3.2.3. Attribution Theory

This theory was established by Bernard Weiner (1979). Basically, attribution theory is used as a basis for understanding the underlying motivation in children. The theory argues that people may explain success or failure in various ways, for example, ascribing them to ability, effort and even luck. What they believe about success and failure affects their attitude towards work and problems, and the way they apply their abilities (Meyer & Fennema, 1985; Cohen & Ambrose, 1993). Weiner (1985) notes that, commonly, people attribute success to high ability and hard work, whereas they may attribute failure to low ability and lack of effort. A problem with such causal perceptions is the so-called fundamental attribution error – a tendency to overestimate the impact of dispositional factors (which, according to Weiner (1985), tend to be perceived as fixed and stable) and to underestimate the impact of situational factors (Gawronski, 2007). Attribution theory suggests that students who attribute success to their ability tend to succeed, while those who attribute failures to lack of ability tend to fail. According to Weiner (1985), this is because there is a link between perceptions of one's ability and expectations of goal attainment, which in turn affect other thoughts and actions. For example, causal attributions affect emotions, which play a role in motivated behaviour. People who attribute success to their own ability have positive self-esteem and approach learning with a positive, confident attitude. Conversely, people who attribute failure to their perceived lack of ability have low self-esteem and lack of motivation to persist. The theory is useful in highlighting the importance of creating a sense of motivation for individuals and it can be used to predict behaviours of gifted and talented students, that may influence their performance. However, no evidence was found of its application in identifying such students.

Attribution theory is, however, criticised by a number of researchers as being retrospective (Coleman, 2013). This means that the theory is only useful in understanding the making of future goals, but it does not directly influence motivation. Gough et al. (2013) have also criticised the theory as difficult to apply, because it is difficult to know how people perceive an event, and therefore, to measure attributions.

Regarding relevance to this study, the theory highlights that motivation is important if children are to realize their potential. Some children who are potentially gifted and talented may underachieve due to lack of self- belief. However, the theory does not consider how to identify such children. Also the theory does not allow for different cultural attitudes to the

attribution of success and failure. There is research evidence that, whereas in Western societies there is a tendency to attribute success and failure to stable dispositional traits, in Asian cultures, people are more likely to attribute outcomes to situational factors, and such differences have been explained in terms of different thinking styles (Choi et al., 1999). To the best of the researcher's knowledge, no such research has been reported in Saudi Arabia. However, Saudi Arabia is a collectivist culture in which outcomes are seen as belonging to a group, rather than an individual, and success reflects not only one's own ability, but also the contributions of family, peers and so on. Moreover, Islam encourages a belief that outcomes are determined by the will of God. A focus on collectivism may, for instance, make individuals reluctant to display abilities which make them stand out from the crowd, or teachers and parents to identify children as gifted and talented. Attribution of success to God may generate a tendency to fatalism and a lack of motivation, which may impede the development and manifestation of giftedness and talent. Such possibilities however, have not yet been researched. Such attributions and their implications are not explicitly addressed in attribution theory; so far the literature appears to have discussed only the attributions to effort and ability. This may perhaps be because these are presumably under the individual's control, so that adjusting attributions may be more likely to lead to change of behaviour.

3.3.2.4. Achievement Goal Theory

Achievement goal theory represents an attempt to understand helpful and less-helpful reactions to achievement challenges (Senko et al., 2011). The nature of a student's achievement goals is assumed to influence the quality, timing and appropriateness of the cognitive strategies they adopt, which in turn will influence achievement (Covington, 2000). Achievement goal constructs address the purpose of pursuing an achievement task and the criteria or targets by which students judge their performance (Pintrich, 2000).

The Achievement Goal Theory suggests that having a goal or objective is a critical factor in intrinsic motivation needed to create and sustain high levels of academic performance in students, gifted or not (Elliot, et al., 2002). The theory has two basic constructs, namely: mastery goals and performance goals. Mastery goals focus on the development of competence, whereas performance goals focus on the demonstration of competence. The former is defined by task-based or intra-personal standards, that is, by task achievement or a personal sense of having improved, without reference to other people or external standards; in contrast, performance goals are judged by normative standards (e.g., test grades) or

outperforming others (Pekrun et al., 2009). The two kinds of goal derive in part from different perceptions of ability; students who pursue performance goals tend to view ability as fixed, whereas those students who pursue mastery goals see ability as something that can be developed (Senko et al., 2004). A distinction is also made between approach goals (pursuit of competence or success) and avoidance goals (avoidance of incompetence or failure) (Pintrich et al., 2000). Students are generally driven either to avoid failure or to achieve success (Elliot et al., 2002). Different kinds of goals are reported to be linked with different emotional and cognitive outcomes, which in turn affect achievement. Mastery goals have been linked to positive affect, whereas evidence on the relationship between performance goals and emotion is inconsistent (Meyer et al., 1997; Roeser et al., 1996). Emotion, in turn, is said to influence cognitive states and, hence, performance. Positive emotions are associated with creative, flexible thinking, whereas negative emotions are associated with more rigid ways of processing information (Fiedler, 2001). Such effects are thought to explain the links reported between goal-type and performance. In practice, students with mastery goals tend to be more academically successful. They often act for their own satisfaction and do not concern themselves with how others see them. Performance goals may be positive (in the case of approach goals) or negative (in the case of avoidance goals) predictors (Elliot & Church, 1997; Wolters, 2004; Silver et al., 2006). Avoidance goals have been linked with high anxiety, ineffective study habits, low self-efficacy and poor performance (Moller & Elliot, 2006).

A problem with goal theory is how to identify and measure learners' goals. Elliot and Murayama (2008) criticise existing achievement goal measures on several grounds, including items that capture values or concerns rather than actual goals, confounding the goal with the underlying motivation, and items that do not clearly discriminate between mastery and performance goals. Moreover, Brophy (2005) suggested that questionnaires may provide an inaccurate measure of how much students actually pursue performance goals and that the relationship between normative goals and performance goals may be spurious, reflecting the confusion between ability and confidence.

This theory may be better suited to older children and adults, as very young children such as primary school children, who are the focus of this study, may not be able to set their own goals. Research has often failed to find a relationship between goal orientation and performance (e.g. as measured by school grades) in younger students (Wolters, 2004). The

clearest evidence for a relationship has been found among post-secondary students. For these reasons, this theory appears less suitable for primary schools, which are the focus of this study.

Motivation theories are linked with people's feelings about themselves, their abilities, and their tasks. A stronger focus on the role of feelings comes from the theory of emotional intelligence (Salovey & Mayer, 1990) reviewed next.

3.3.3. Emotional Intelligence

Emotions or feelings are part of the human ability to respond when interacting with other people and to external stimulus. The concept of emotional intelligence (EI), according to Salovey and Mayer (1990), is 'the ability to monitor one's own and other people emotions, to discriminate among them, and to use this information to guide one's thinking and actions'. The notion has attracted attention as part of the work of some intelligence theorists such as Gardner (1983) and Sternberg (1993), discussed above, who reject the idea of a single, general intelligence factor such as IQ (Thingujam, 2002). Indeed, the concept of EI can be linked to Gardner's (1985) idea of inter-personal and intra-personal intelligence, as well as to Sternberg's (1988) idea of contextual intelligence, which concerns the ability to handle everyday life events (Thingujam, 2002). However, the idea of EI as a distinct construct attracted particular attention from both professionals and the general public, following the publication of Goleman's (1995) book, *Emotional Intelligence*, and his claim that EI is a major contributor to success at school and at work. Emotion is considered a form of intelligence that has varying degrees of influence on the actions (Caruso, 2008). Emotions can be categorized as intelligent or not, as they play a significant role in a person's decisions, values and action.

The particular theory of emotional intelligence explored here is Mayer-Salovey's Theory of Emotional Intelligence. This theory is selected because it represents one of the main approaches to EI: the ability approach. The Mayer-Salovey theory views EI as a mental ability that can be objectively tested (Daus & Ashkanasy, 2013). It is the theory of EI that has been most extensively researched and discussed in peer-reviewed journals (Fernández-Berrocal & Extremera, 2006). It can be operationalised through the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), which has been extensively tested and validated (Mayer et al., 2004). Another reason for selecting this theory is that, whilst it is concerned

with both intelligence and emotion, Mayer-Salovey focuses more on the intelligence aspect of EI (Thingujam, 2002).

3.3.3.1. Mayer-Salovey Theory of Emotional Intelligence

Mayer and Salovey (1997) define emotional intelligence as the ability to recognize and use emotions to enhance thinking. According to this theory, emotional intelligence is the ability to process emotional information accurately so that the cognitive processes are not impaired by the presence of an emotive experience (Caruso, 2008). The theory uses four sub-stages to identify the interrelationship of personal feelings or emotions. These include: perceiving emotions, using emotions, understanding emotions and managing emotions (Caruso, 2008). Mayer and colleagues developed the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) to measure emotional intelligence. The MSCEIT includes, for example, answering questions about the most appropriate responses in various emotion-related scenarios, and solving emotional problems. The test reportedly has satisfactory reliability and validity (Thingujam, 2002).

Mayer et al. (1999, 2003, 2004) claim that, as operationalised by MSCEIT, EI meets the classical criteria of an intelligence: it is operationalisable as a mental ability, distinct from other measures of intelligence and personality, and develops with age (Mayer et al., 2004). The claim that EI is an intelligence is supported by research evidence that individuals who score highly in EI (as measured in MSCEIT) need less cognitive effort to solve problems (measured by brain-wave activity) (Jausovec et al., 2001). This is a standard pattern of intelligence (Mayer et al., 2004).

Empirical evaluation in various contexts has been conducted to test the association between EI and other outcomes. For example, MSCEIT scores have been found to correlate with various aspects of workplace success (Lopes et al., 2004). Studies have also been conducted on prediction from EI of school grades and intellectual problem solving. For example, In Israel, academically gifted students scored higher on MSCEIT than their less gifted peers (Zeidner at al., 2005). In the United States, correlations between EI and school grades in the range of .20 - .25 are reported (Barchard, 2003; Brackett & Mayer, 2003). These studies, however, all involved high-school or college students; no evidence was found for the application of MSCEIT to primary stage students. MSCEIT is the most commonly used measure in many companies for screening job applicants and promoting employees, executive coaching and developing leadership potentials, career development, and therapeutic

counselling (Caruso, 2008). These uses suggest the theory is more relevant to adults or older students than the primary school stage. Therefore, it is difficult to rely on this theory for identification of gifted and talented primary school boys.

This section has reviewed a number of cognitive and alternative theories which have been used to underpin different views of giftedness and talent. Gardner (1983), Sternberg (2003) and Renzulli (2005a, b) differ in their emphases but share certain assumptions:

- that giftedness and talent involve extraordinary performance or achievement
- that giftedness and talent are not fixed traits but are dynamic and are influenced by external and internal factors
- that giftedness and talent can be measured and/or observed
- that assessment and identification are desirable, or even necessary, in order to offer appropriate educational provision to maximise the development of children's gifts and talents.

Other theories reviewed above were included because they complement the cognitive theories, focusing on factors that cognitive theories have acknowledged as important – motivation and emotional intelligence, and which have been suggested to have links with cognitive ability. For example, motivation was said to interact with ability and be required for the fulfilment of giftedness (Renzulli, 2005a, b) while emotional intelligence has been claimed to be a cognitive ability in itself (Gardner, 1983; Mayer et al., 2004) or to be necessary for optimum fulfilment of potential (Goleman, 2001a, b). The next section provides an evaluation of the reviewed theories in terms of their relevance to the present research.

3.4 Summary and Choice of Theories for this Study

The purpose of this section is to assess the relevance of the above theories for this study, and present the decision on which theory or theories will inform this study. While all the theories discussed can provide important insights for education, including education of gifted and talented children, some are more relevant than others for this research. Some of the key issues are relevance for assisting in the identification of gifted and talented children, suitability for the primary stage (ages 6-12 years) and suitability for the cultural and educational context of KSA. The latter point is relevant because, while it is broadly agreed in the literature (for example, Wechsler, 2005; Sternberg,1993; Sternberg & Grigorenko, 2002b) that intelligence is the ability to operate on information, there is also acceptance that the kinds of information available and the opportunities for using it will differ according to context, giving the

exercise and identification of gifts and talents a contextual dimension (Gardner, 1983). As noted previously, the Saudi definition of giftedness (Aljughaiman & Ibrahim, 2009) echoes Sternberg and Zhang (1995) in referring to accomplishments valued by society. Abilities that are not valued by a given society may not have the opportunity to flourish, and in any case there will be less interest in those abilities as criteria for giftedness. Because the KSA is an Islamic kingdom where strict Islamic laws guide each and every sphere of individuals' daily lives, it is felt that not all of the theories explored are applicable to the context. Saudi culture involves beliefs that are not accounted for by some Western theories. It also suppresses some behaviours that certain theories view as part of giftedness.

For instance, because Islam recognises music as 'haram' or 'forbidden', it is not possible to apply the concept of musical intelligence (Gardner, 1983), which constitutes the capacity to recognize and compose musical pitches, tones, and rhythms, in that context. Some other forms of artistic expression and some aspects of inter-personal and intra–personal intelligences (Gardner, 1983) would also be difficult to apply. This is because some behaviours including music and certain forms of art, as well as talkativeness, persistence and rule rejection, are not appreciated in Saudi culture and are discouraged, while others, such as leadership are viewed differently in boys and girls (Alamer, 2010). This means that some of the intelligences as defined by Gardner (1983) may not have the chance to flourish in the Saudi culture, or may not be recognised as gifts and talents of interest to teachers or society. For these reasons, among the cognitive theories, Gardner's theory will not be adopted in this study.

Among the alternative (non-cognitive) theories, theories of motivation are useful in drawing attention to the importance of motivation in influencing children's ability to realize their potential. However, they are more relevant to care of gifted and talented children than identification, and are not well suited to the Saudi context. Attribution theory, for example, assumes ways of attributing success and failure to the personal attributes and efforts of the learner that do not fit KSA's collectivist and strongly religious culture, which as explained earlier attributes outcomes to collective effort and to the will of God, as discussed in Section 3.5.2. Whereas attribution theory assumes that individuals attribute success and failure to their own strengths and weaknesses (Cohen & Ambrose, 1993), Saudi culture encourages people to see their success as communal, rather than individual outcomes, and ultimately to attribute all outcomes, good or bad, to God's will. Furthermore, the goal theory is difficult to apply for very young children, who may have little chance or ability to set and express goals,

since teachers and families shape children's choices. Even if children of this age can set goals, this is more likely to be useful in the education of gifted and talented children, than in the identification process itself. Therefore, motivation theories are not adopted in this study.

Finally, the idea of emotional intelligence can be useful in highlighting the importance of children's emotional skills such as the ability to perceive, understand and use emotions (Mayer et al., 1999, 2003, 2004), in order for them to achieve their potential. However, it seems less useful for the process of identifying gifted and talented children, since cognitive abilities, social skills and EI may develop at different rates. Moreover, some of the measurement scales used are more suited to adults – as reflected in their use with job applicants and employees (Caruso, 2008; Boyatzis et al. 2000)

For the purposes of the research, the two most appropriate theories that informed this research study are Renzulli's three-ring conception of giftedness and Sternberg's triarchic theory of intelligence. Whilst, as acknowledged earlier, both theories have attracted criticism, it was shown that all the criticisms raised can be countered (Section 3.3.1.2 and 3.3.2.1). The former enables giftedness to be identified through the child's behaviour (Renzulli, 1986, 1998). Children can be identified as gifted or not based on the interaction of three factors: having an above average ability, their commitment to task, and whether they are creative (Renzulli, 1986). These concepts are not tied to any specific test or criterion and are broad enough to include many kinds of ability. This would allow application to whatever range of abilities is allowed to develop and is of interest to educators in a given context. 'Task commitment' might perhaps be considered a more practical and observable characteristic than motivation, because it is a behaviour, whereas motivation is an idea or feeling that may be difficult to recognize. The main advantage of the model is that it allows teachers the flexibility to rely on their experience in the identification of gifted students, even if they do not necessarily score higher marks on formal tests and assessments. Other advantages of the model are that it allows for the identification of gifted students who appear to be intrinsically motivated and with highly developed special interests and ability in particular subject areas; and it acknowledges the roles that creativity and task commitment play (Renzulli, 1986). The theory is applicable to the research context because it is broad enough to cover different cultural perceptions of giftedness and talent. However, the model is criticised for its inability to identify gifted students who have above average ability and creativity, but are yet to find a context or area of interest in which they excel (Lee-Corbin & Denicolo, 1998; Gross, 2004). This is because such children may lack - or not have the opportunity - to display task

commitment, which Renzulli (2005) views as an essential component of giftedness. It could be argued, however, that this feature is actually a strength of the theory, because it provides an answer to the problem of the difference between latent ability, i.e. potential and actual achievement.

Sternberg's triarchic theory of intelligence is of interest because it proposes three types of intelligence, which enable individuals to use information in different ways to achieve various purposes in life (Sternberg, 2004a). The recognition of different kinds of intelligence allows for the identification of ability in a variety of areas. At the same time it avoids some of the problems of Gardner's theory (where it is difficult in practice for teachers to prove, identify and work with so many supposedly distinct intelligences) (Brady, 2015). Sternberg's categories are broad enough to be flexible to context, so they can be interpreted in terms of culturally relevant types of performance in the Saudi context. In the researcher's view, Sternberg's (2003) theory offers a useful complement to Renzulli's (2005) model, as it has the potential to clarify and expand the broad notion of 'ability' into a set of skills that may be operationalised in different contexts. Another consideration is that these theories are known in Saudi Arabia; they are cited in a government document (Ministry of Education, 2007) which cites them as underpinning an in-service training programme for Gifted Teachers. This suggests that Saudi teachers who have received training in Gifted Education may have an understanding of giftedness and talent that is informed by these theories. In Section 3.7 these theories will be used in the conceptual framework of the study.

Sections 3.3 and 3.4 have explored different ways of understanding giftedness and talent. These theories imply and justify different methods for identifying gifted and talented children. Identification methods are therefore reviewed in the next section.

3.5. Identification of Gifted and Talented Children

The identification of gifted and talented children is based on the idea that such children have distinctive characteristics compared to other children and that these may be observed or measured (Aljughaiman & Ibrahim, 2009). Before further discussion, it is worth noting that some authors, while accepting a concept of giftedness, see no need for institutionalized identification processes, arguing that identification is a negative and limiting practice (Birch, 2004). Heller (2004) notes the arguments raised against identification from psychologists and counsellors, based on the problem of labelling children, potentially leading to social isolation, development of egocentric attitudes and behaviours by those singled out as gifted and

talented, and pressure (from parents, schools, and society) with consequent damage to personality development. Borland (2012), as noted previously, questions even the idea of "the gifted" as a discrete category. He argues that, given the difficulty of agreeing on a concept and measuring it objectively, as well as the dubious validity and quality of many gifted education programmes, it would be better to focus on identifying the needs of all students in individual subjects and differentiating accordingly – for example, by providing more challenging books for good readers, and so on. Moreover, he asserts that in the United States, for example, identification programmes have discriminated against ethnic minorities and pupils from disadvantaged socio-economic backgrounds (Borland, 2012).

Nevertheless, as shown below, other writers support identification of gifted and talented students. Indeed, Yamin and Ambrose (2012) in their discussion of gifted education policies and practices in the Middle East, argue that identification and nurturing of the gifted and talented is an important part of democratisation and the spread of opportunity. Whether for this reason, or for reasons of economic development and global competitiveness, many education systems, including KSA, have set policies for identification of such children. These may involve single case analyses, where diagnosis is the base for counselling or educational interventions to avoid or reduce problems of boredom and frustration leading to emotional and behavioural disturbance, or (as in KSA) a broad talent search premised on students' right to nurturance of their abilities, and the social demand for gifted and talented children to contribute to society (Heller, 2004). For this reason, in this section, a variety of tools and methods for identifying giftedness and talent are reviewed, noting their strengths and limitations. After this review, the policies and practices of selected countries, including KSA, are introduced.

3.5.1 Methods of Identification:

How to identify gifted and talented students has been described as a common concern for schools (Eyre, 2001). Silverman (2007) claims identification is possible for children as young as three years old, and early identification is advised, to prevent under-achievement (CCEA, 2006). Although Heller (2004) expresses concern about the lack of reliable and practical criteria for identifying very young children, Perleth et al. (2000) claim that standard intelligence tests are reliable at pre-school ages, and early identification is useful to inform individualised education. Nevertheless, continual diagnosis is considered preferable for identification of developmental advances and to facilitate gradual adjustment in possible cases of misdiagnosis (Heller, 2004). Despite the desirability of early identification, there is,

however, a lack of agreement on which assessment measures are most suitable for this purpose (Renzulli, 2002; Coleman, 2003; Al-Makhalid, 2012).

Gray et al. (2009) classify identification methods into two broad groups: objective and subjective. Objective measures include general measures of intelligence, such as the Wechsler scale (Wechsler, 2005), tests of creativity, such as the Torrance tests (Torrance, 1978), and tests of achievement, for example, in the USA Scholastic Achievement Tests and the UK, Standardized Assessment Tasks (SATs). Clark's (2006) report of her international survey reveals objective measures such as class grades and/or achievement testing, and intelligence tests such as Stanford-Binet and Wechsler to be the most popular identification methods in the 17 countries she surveyed – which included Saudi Arabia. Subjective methods which may be more applicable to implicit theories of intelligence (Sternberg & Davidson, 1986) include teachers' and parents' nomination, although checklists and rating scales have been developed in an effort to make these more objective (Aljughaiman & Ibrahim, 2009; Alnafi et al., 2000)

As noted previously (Section 3.2), for many years, the dominant approach to identifying gifted and talented students was the IQ test, and it remains a popular approach in many education systems, including the USA (NAGC, 2009; McClain & Pfeiffer, 2012) and KSA (Alqefari, 2010). The IQ test is the original measure of giftedness (Feldhusen, 1999) and has its value (Brody & Stanley, 2005). However, Brody and Stanley (2005) discovered that the IQ test, which appears to hold the greatest weight in identifying gifted and talented students, is often of little use when identifying students with above average ability in maths and science, suggesting it should not be used as the definitive measure of giftedness.

A broader approach to testing intelligence is through ability profile tests such as the Wechsler Intelligence Scale (Wechsler, 2005). This is useful for screening whole cohorts, is standardized to age group and can reveal latent ability (i.e. potential not necessarily demonstrated in school grades and the like) (Tunnicliffe, 2010). Such tests can predict both general and special abilities (Gray et al, 2009). However, a limitation is that they measure convergent thinking, so may not identify gifted children who are creative, divergent thinkers (Al-Makhalid, 2012). Moreover, they do not allow for differences in language and culture (Colangelo & Davis, 2008). It has also been claimed that they are less robust towards the top of the scale (Tunnicliffe, 2010). In fact, as Sternberg and Subotnik (2000) comment,

standardized testing is critiqued as being too restrictive, because it only captures a particular set of abilities.

In the UK, moreover, it has been reported that tests are not reliable indicators of giftedness for students from socially-disadvantaged backgrounds (Casey & Koshy, 2002; 2006). General intelligence tests have been criticized for rewarding only convergent thinking (Tunnicliffe, 2010). One solution to this is to complement them with tests of creativity, such as the Torrance tests of creative thinking (Torrance, 1974), which capture abilities that IQ tests miss (Brady, 2015). The rationale for this is that one of the components of giftedness is creativity, represented in fluency, flexibility, originality, curiosity and sensitivity (Renzulli, 2002; Renzulli & Reis, 2000, 2008). These tests measure different kinds of thinking skills that form part of a broader conceptualization of intelligence, such as problem-solving; so they provide an opportunity for children who may not be identified as gifted on standardised intelligence measures (Callahan & Miller, 2005). However, they take a lot of time to administer and Kaufman et al. (2012) report mixed evidence of the psychometric quality and predictive power of such tests. Almeida et al. (2008) cited in Borland (2012) challenged the construct validity of the Torrance test in particular.

Another approach to testing is the use of curriculum based achievement tests, such as Scholastic Achievement Tests (SATs), also termed Standardized Assessment Tests (Koshy et al. 2012; McClain & Pfeiffer, 2012; Tunnicliffe 2010). Because such tests can be used at different ages, they enable progress to be tracked over time. They also have the advantage of being linked to national standards (Tunnicliffe, 2010). However, they are domain-specific, covering a limited range of subjects and abilities. Since gifted and talented children often excel in some areas and not others, SATs may lead to some gifted children being overlooked (Maitra, 2000)

Whilst objective measures are widely used, as noted previously (Clarke, 2006), Borland (2012:19) criticises what he calls the "fetish" for such measures, based on the erroneous view that objectivity is good *per se*. As he points out, what matters is not whether a test is objective or subjective, but whether it is valid; objectivity does not equal validity. He cites as an example the controversy over tests of creativity such as Torrance, noted above, and criticises the diagnostic thinking that leads educationists to cling to such tests, despite disconfirming evidence. He is also critical of approaches that involve summation of scores on different tests,

and the use of arbitrary cut-off criteria; in his view, such approaches suffer from high error variance, leading to invalid decisions.

Whilst testing is a widely used approach to identifying giftedness, more subjective approaches based on observation are also popular (Gray et al., 2009). It is difficult to discuss these without reference to the context in which they occur and the people likely to perform them. Teacher nomination and parent nomination are widely discussed in the literature (Smutny, 2000; Wiman & Sandhu, 2004; Renzulli, 2005a). Often parents alert the school when they notice a child is developing more rapidly in comparison to siblings and children their age. Teachers may see that a student completes a task with ease or achieves task completion beyond the aptitudes expected for that age group.

Teacher nomination is an age old practice (Aljughaiman & Ibrahim, 2009), based on the rationale that gifted and talented children have characteristics that may not be captured by intelligence or achievement tests (Renzulli, 2005b). Gray et al. (2009) see nomination as a substantial first step in the identification process, and teacher observation may be one of the best ways of identifying giftedness in younger children (Wiman & Sandhu, 2004). However, evidence of the accuracy of this method is mixed, and depends on teachers' knowledge and training. For example, Gray et al. (2009) found that teachers with low knowledge of giftedness tend to identify high-achieving students but overlook potential, which is harder to assess. Dweck (2004) suggests teachers may take account of factors such as intelligence and are influenced by their own implicit theories of giftedness. Aljughaiman & Ibrahim (2009) report low accuracy, especially when teachers are untrained. In contrast, Alnafi et al (2000) in the USA found teachers produced highly accurate assessments when provided with a characteristics checklist. However, Brady (2015) suggests that teachers may find checklists unwieldy, leading to non-use. Grubb (2008) also insisted on the need for training and checklists, to guide teachers' nominations.

A number of checklists and structured observation protocols have been developed to help in the process of teacher nomination. These may be generic or subject-specific, In the UK, for example, the Department for Children, Schools and Families (2008) produced a generic checklist as guidance for schools, including such characteristics as good reading ability, imagination and strong opinions. The Department also noted that characteristics differ at different school stages; indicators suggested for primary school students include using fewer

steps in processes, needing less attention and practice than peers, enjoying independent study, and ability to cope with abstract tasks.

However, as Tunnicliffe (2010) notes, such lists may create stereotypes, and can be difficult to relate to the curriculum. They are more useful for broadening teachers' awareness than as actual measures. This is especially so, because gifted children do not always respond as expected to academic tasks. Also, he suggests, since gifted children are often gifted in specific areas, there is a need for subject-specific checklists to alert teachers to ability in particular areas, such as language, mathematics or science. Borland (2012:20) is another critic of checklists, which he describes as "of dubious validity and reliability and easily manipulable."

An alternative form of guidance to teachers comes from Callahan and Miller (2005), who detail observational mechanisms, identifying two paths that gifted and talented students follow, called the academic-accelerative path and creative-productive path. They define a student as academic-accelerative who has an intrinsic motivation for learning, and note that this is a characteristic observed and identified in gifted children (Csikszentmihalyi, et al., 1997). Further, according to Callahan and Miller, gifted students can be identified by their independence and motivation, in addition to their desire to remain deeply stimulated by the complexity of learning and sophisticated analysis. They identify creative-productive students as those that enjoy problem solving, be it real-world or created. Callahan and Miller (2005) state that these types of children can be identified by the characteristics they possess, which often consists of being independent and enjoying solitude when an activity requires communication. However, this varies, depending on the environment, perceived demands and students' personality (Csikszentmihalyi & Wolfe, 2000).

Whilst the two paths (academic-accelerative and creative-productive) share characteristics, Callahan and Miller (2005) argue that it is important to note they also possess differences. They note that educators should seek to identify both by abilities and attainment, although some research has found a gifted student may only be gifted in one area (Maitra, 2000), be it mathematically, scientifically and/or artistically. The "Nebraska Starry Night" (Eyre, 1997) student record sheet is an example of a format devised for teachers' observation, as it acts as a checklist (Callahan & Miller, 2005). (See figure 5)

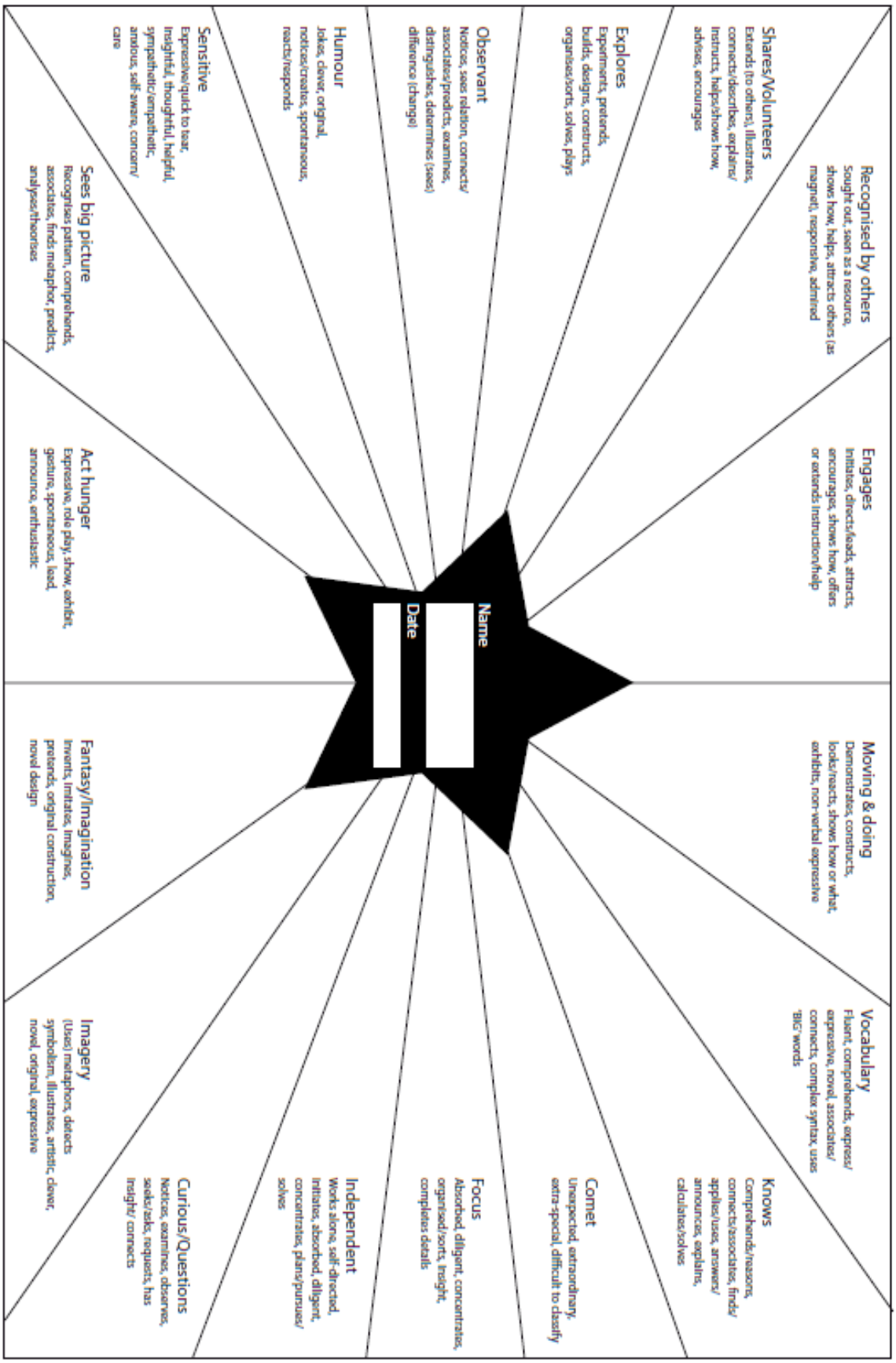

Figure 5: Nebraska Starry Night: individual record sheet (Eyre, 1997, 32-33)

Eyre (1997) advises that during an assigned period, teachers 'check off' behaviour they have observed, and claims that this method is useful in identifying gifted and talented children when a class has a large number or is very demanding.

Checklists are regarded as useful as they are a decision making method to decide if an individual is gifted or not. This can facilitate the identification of ability in students who might not otherwise have been considered gifted (Callahan & Miller, 2005). Winstanley (2004) states they should not be used as a diagnostic measure, as a weakness of checklists is that they are ambiguous and can possess contradictions. Moreover, gifted children cannot be treated as a homogenous group due to case by case needs, and caution should be used by those that seek to make attributions of giftedness based on such checklists. Also, the use of checklists does not eliminate subjectivity, as teachers will differ in their view of what counts as exceptional ability in a particular area (Callahan & Miller, 2005)

Rather than the views of individual teachers, another approach is to involve a panel of experts in the field in question. Borland (2012) notes, for example, that with regard to creativity, research supports the validity of Amabile's (1982, 1996) method of "consensual assessment". The child is asked to create something, for example, a poem, an artistic work, or a solution to a problem, and his or her product is assessed by a group of experts in the relevant area, in order to make a judgment as to the children's giftedness or talent, as the basis for individualized provision or recruitment to a gifted and talented programme.

Another source of nominations is children's parents. Parents have intimate knowledge of the child and can provide information on performance outside school (Tunnicliffe, 2010). However, there are concerns that such nominations can be affected by bias (Rogers, 2002; Silverman, 2007). On the other hand, Worthington (2001) reported that for pre-school and primary school, parents are an important source of information, and challenged the view that parents overestimate their children. However, some others recommend providing parents with reporting forms to help them to supply schools with a variety of information (Gray et al. 2009).

It can be seen that there are various approaches to identifying gifted and talented children, and all have strengths and limitations. It is generally agreed that no single measure or technique is adequate and multiple methods are needed. (Monks & Katzko, 2006; Al-Makhalid, 2012). As Mandelman et al. (2010) point out, the process of identification depends on the purpose of identification and the underlying model of giftedness. Sternberg (2004), for

example, suggests that to identify gifted and talented students in terms of his theory, multiple measures should be used, including:

- Standardized tests of memory and analytical ability (e.g IQ).
- Standardized tests of achievement.
- Teachers' grades and comments.
- The Sternberg Triarchic Ability Test (never used alone).
- Evaluation of existing products / performance for evidence of the three skill types.
- Teacher-created tasks such as writing stories or solving practical problems.

What is important, as Tunnicliffe (2010) argues, is transparency, fairness and equality of opportunity and there needs to be agreement on the multiple sources of evidence to be used.

With such concerns in mind, Renzulli (2014) has devised a practical identification system which brings together a variety of measures and procedures (see figure 6)

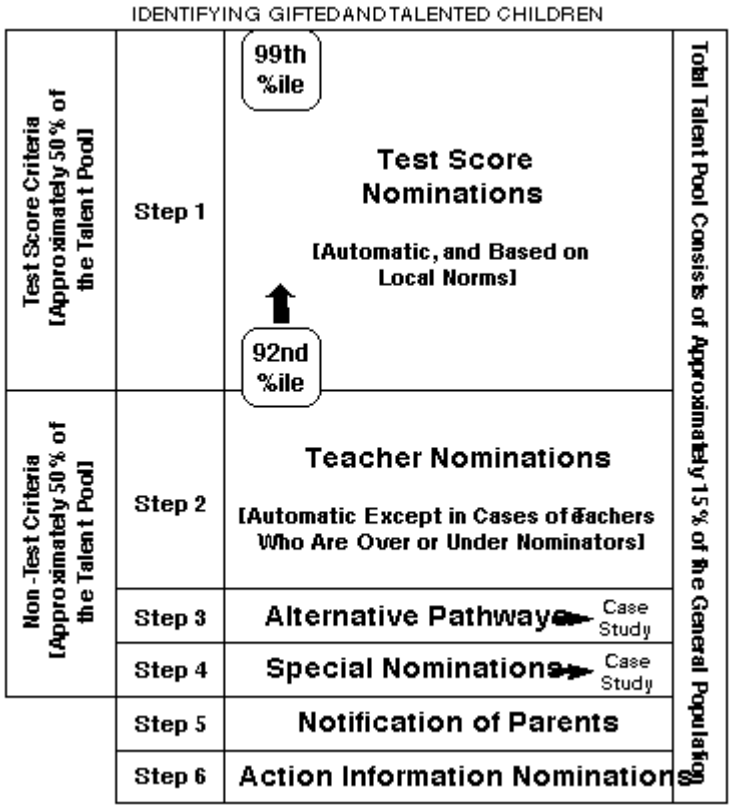

Figure 6: A Practical System for Identifying Gifted and Talented Students (Renzulli, 2014)

Renzulli (1986) suggests there is an alternative pathway to identify gifted individuals, as the methods mentioned previously are ideal when a student is being considered for inclusion in

gifted and talented programmes. He suggests parent and peer nominations and tests of creativity are used here; however, this method means that a secondary screening decision will need to take place, in which the school administration reviews the previous results, then the individual progresses to interview and or receives a trial in a gifted and talented programme.

Special nominations is another school-based method used to identify gifted and talented children. This method involves the nomination of a teacher (other than the class teacher) or person of authority, who may have been in contact with the child via extra-curricular and or enrichment activities. This method helps to identify school children that may no longer be interested in traditional schooling or have fallen behind due to home issues. This step provides a further opportunity for identification, making it less likely that a gifted child is missed; however this method is assessed on a case by case basis (Renzulli, 1986).

Notification and orientation of parents involves notifying parents that their child has been noticed as being gifted, and calling a meeting to discuss and explain how giftedness is determined, the meaning, and procedures that arise from their child being a part of the 'talent pool' (Renzulli, 1986).

Action Information Nominations is the final method of identification proposed by Renzulli (1986) and this method seeks to capture any students who may not have previously been identified as gifted or talented. The recommendation of these students often comes from in class enrichment, as a student will become engrossed in a certain topic or area of study that takes place internally or externally of the school setting.

The outline above shows that a variety of subjective and objective methods exist for identifying giftedness and talent. Since different methods capture different aspects of ability, there is a trend to advocate multi-criteria approaches; both Renzuli (2014) and Sternberg and Grigorenko, (2002b) for example advocate a range of methods, including various test scores and more subjective teacher judgement. The next section considers the methods used in practice in various national contexts.

3.5.2 National Approaches to Identification of Gifted and Talented Children

Different cultures and societies deal with the identification of gifted and talented students differently according to their conceptualization of giftedness and in many systems they are given special attention. There is a significant body of research on the identification of gifted and talented. In this section, the researcher will concentrate on the diverse approaches taken

to identify gifted and talented children in the UK, USA, Australia and KSA. The approaches of the UK, USA and Australia are selected because, compared with KSA, they have longer experience in gifted education; the USA in particular, dominates research on giftedness (Jaffri, 2013). Like KSA they adopt broad definitions of giftedness. Moreover, like KSA, they are meritocratic systems that distribute opportunity based on demonstrated ability. This is in contrast to egalitarian systems such as France and China, which aim to offer the best possible opportunities for all students to realise their potential, and so are not concerned with identification of gifted and talented students as a distinct category (Mandelman et al., 2010). Moreover, KSA has borrowed extensively from Western systems in developing its own gifted education system, as will be seen.

3.5.2.1 Identification of Gifted and Talented Children in the UK

The section summarises the main methods which are used to identify gifted and talented children in the UK. Discussion of formal measures within the education system, however, is confined to England and Wales, since Scotland and Northern Ireland operate their own education systems. The former Department for Children, Schools and Families (2008) highlighted the application of both qualitative and quantitative methods as popular for identification of gifted and talented students. Teachers use these methods according to the age group of the students they are teaching and the nature of the subjects being taught. Among the most popular identification methods identified in that guidance were (1) Teacher/staff nomination, (2) Checklists, (3) Testing - achievement, potential and curriculum ability (4) Assessment of children's work (5) Peer nomination (6) Parental information (7) Discussions with children/young people (8) Using community resources (Department for Children Schools and Families, 2008). There is little new guidance since that date, although Tunnicliffe (2010) and Koshy et al. (2012) refer to a similar range of methods.

Tunnicliffe (2010) points out a distinction between national and school-level approaches and criteria for identification of gifted students. At national level, various quantitative criteria are used for identifying the top 5% of the population; scores in SATs in English and mathematics in the top 5% nationally; merit or distinction in the UK World Class Tests for mathematics and problem-solving (for ages 8-11 years and 12-14 years); scores of 129 or above on any recognized standardized test for cognitive ability and reasoning. Students not meeting these criteria can be identified through teacher nomination, evidence of achievement outside school (e.g. in music or dance), or the independent assessment of an educational psychologist

(Department for Children Schools and Families, 2008). School-level procedures, however, may be more broadly-based and are likely to identify more than the top 5 %, based on the application of more flexible criteria, broader conceptualization of giftedness, and teachers' inclination towards inclusivity (Tunnicliffe, 2010).

In fact, there is evidence that, despite the existence of government guidelines, school practice in the UK is inconsistent. Koshy et al. (2012) carried out a survey of a stratified random sample of 20% of all primary schools in England and Wales, to find out how schools are responding to government guidelines on gifted and talented education. They found that 96% of the sample identified their gifted and talented students and 90% had a school policy for gifted and talented education. Moreover, 64% of the respondents had received some training related to gifted education. Surprisingly, however, a third of the gifted co-coordinators in the sample had not heard of the guidance sent to schools in 2007. This suggests that schools would be adopting inconsistent criteria and methods to identify gifted and talented children, and contradicts the notion of national standards. Regarding methods of identification, the survey results revealed that the main method of identification used in sample schools was based on national or school test results; 96% of the respondents relied on key stage 1 tests (at the age of 7 years). Moreover, 63% of the sample schools did not use domain–specific criteria for identifying gifted and talented students, even though the government definition at the time viewed giftedness and talent as ability in a specific academic subject or practical area (DfES, 2006). The survey also showed that 42% of schools did not inform parents that their children were identified as gifted and talented.

In addition to procedures within the formal education system, the British Mensa organisation is also involved in the identification of gifted and talented children, through support programmes for helping educators with their work. The organisation provides a checklist for parents to facilitate identification and further supervises IQ tests for children over 10 and a half years of age. These scores are reviewed by an educational psychologist (Mensa, 2016).

3.5.2.2 Identification of Gifted and Talented Children in the USA

Like other Western countries, the United States have developed and adopted policies and practices for the identification of gifted and talented children in their educational system. Different identification methods are used at federal level, state level and at the district level. Students may be identified based on the differences in their learning styles, depth and complexity of understanding and potentials. The National Association for Gifted Children

(NAGC) is actively involved in the process. Before the start of the 21st century, USA authorities relied solely on the IQ test score for the identification of gifted and talented students but currently more varied practices are adopted (McClain & Pfeiffer, 2012). In their 'State of the States 'survey, the NAGC (2009) found that of 46 states responding to questions on identification, 28 required specific criteria or methods to be used, including multiple – criteria models (21) IQ (15), achievement tests (15), LEAs' choice from a range of state – approved assessments (10) and teachers' nominations.

McClain and Pfeiffer (2012) surveyed state policies and practices via their websites, supplemented by information from state gifted coordinators. They found that 32 of the 50 states had mandates for identifying gifted and talented students, 12 had no state-level mandate but relied on local policies, and 6 had neither state nor local mandates. McClain and Pfeiffer (2012) categorised the main methods and domains used for identification of gifted and talented children in the USA as: the intellectual domain (IQ), performance, achievement, creativity, nominations/referrals, behavioural checklists, and rating scales. Among these seven methods they found intelligence tests and assessment tests are widely used in the country; however, few states mandated specific cut scores, that is, specified scores or percentages as criteria to be used in defining who does or does not meet the standard of giftedness.

Generally, the evidence shows diversity of practice among states. However, it is evident that, since the year 2000, states have expanded their policies and practices to include more identification methods for gifted and talented students by making nominations and referrals important identification methods (NAGC, 2009). The increased use of non-traditional tests in the USA is said to be a result of teachers' dissatisfaction with the failure of traditional tests to provide opportunities for children from low socio-economic levels or ethnic minorities (Van Tassel-Baska, 2005).

Besides state departments, community societies are also working with schools to support in the identification stage of gifted and talented students. For example, The National Society for the Gifted and Talented (NSGT) works on general issues such as comparison of ability vs achievement, test vs grades, standardised testing and other areas. Academic literature has highlighted that no matter which identification method is chosen, the focus should be placed on the integrated role of teachers, parents, self and peer's in effective identification (NSGT, 2016).

3.5.2.3 Identification of Gifted and Talented in Australia

The Department of Education and Child Development in Australia set the criteria and guidance for the identification process of the gifted and talented individuals in the country. According to them, identification could come about through a variety of options. The main methods include observations of children's behaviour, play interest and history in the early development stage. Other methods used in Australia include parent and educator Gifted and Talented Checklists, student interest surveys, self-reports, standardised attainment tests and off-level testing and standardised achievement tests (Government of Western Australia, 2016). With further broader classification of main identification methods used in Australia, the Department has published a list of methods on its website, including parents' nominations, IQ tests (verbal and non-verbal), standardised tests, school records, achievement tests (e.g. reading, mathematics), anecdotal records - interviews (parent/child/community members/previous teacher/school psychologist), identification checklists, rating scales, and interpreters and translators (for students from culturally and linguistically diverse backgrounds) (Government of Western Australia, 2016).

3.5.2.4 Identification of Gifted and Talented Children in KSA

The KSA has focused a lot of attention on the identification of gifted and talented children, especially since the Ministry of Education, together with King Abdul Aziz's City of Science and Technology, launched a national research programme called Identification and Care of Gifted Students in 1999 (Al-Makhalid, 2012). The Ministry of Education in KSA has since designed programmes and established a number of centres for gifted and talented children in primary schools. There have also been several policies and strategic plans designed to highlight the methods and importance of identifying gifted and talented children (Al-Qarni, 2010).

Al-Zoubi and Abdel Rahman (2011) have highlighted the use of a set of standards based on high academic achievement, behavioural traits and unique gifts as criteria to identify gifted and talented students. Currently, King Abdulaziz and His Companions Foundation for Giftedness and Creativity [KACFGC] as a national research centre is involved in the identification process. Alqefari (2010) reports the use of sustained high academic achievement, nomination based on teachers' perceptions and experience and tests to identify the ability and potential of students as gifted and talented within KSA schools. Academic literature has also highlighted the use of school enrichment programmes in KSA for the identification of gifted and talented individuals (Aljughaiman & Maajeny, 2013). These take

place under the supervision of the Ministry of Education in the KSA in cooperation with a number of centres for the gifted. Supervisors from these centres carry out tests on children referred to them by teachers. They also visit teachers in school, and provide enrichment activities for children identified as gifted. Aljughaiman and Maajeny (2013) note that these programmes aim to involve students in an integrated manner with regard to identification of their mental, emotional, social, and physical needs. They explain that summer enrichment programmes require students to reside on campus for the duration of the programme to help the authorities with detailed identification.

Another programme, called the Identification and Care Programme for Gifted Students, was implemented by the Ministry of Education in 1998. This programme was also aimed at identifying gifted and talented children in the KSA and provided more precise guidelines on ways of identifying gifted and talented children. This programme provided opportunities to enhance the identification and the provision for gifted and talented children in the KSA (Al Wasruh, 2005)

The Saudi government has used a variety of tools and methods for identifying gifted and talented students. Al-Qarni (2010) identifies two stages in development of identification. Identifying and codifying gifted and talented children in Saudi Arabia in the initial period of 1990-1995 included:

- Amended Wechsler Intelligence Protocols for Children (WISC)
- Torrance Test for Creative Thinking
- Mental abilities measurement (linguistic, numeric, mechanical or reasoning
- Questionnaire for gifted students' characteristics

(Al-Qarni, 2010)

It can be noted that previously only tangible work of the students assessed by their academic teachers was taken into account for identifying gifted and talented students. The teachers` role was quite important during the enrichment programmes (defined in Section 2.6) designed for the identification process. IQ tests were used predominantly for identification; however, these tests placed children from minority groups and different cultures at a disadvantage (Al- Qarni, 2010). Thus, to avoid bias in the identification process, several expansions and modifications were carried out and the methods currently used in Saudi Arabia include:

- Stanford-Binet Intelligence Scale

- Wechsler Intelligence Scale for Children
- Group Intelligence Test
- Achievement Tests
- Creativity Tests
- Teacher' nomination
- Parents' nomination (Al-Qarni, 2010)

According to Al-Makhalid (2012) under current policy (Ministry of Education 2006; Mawhiba, online, n. d), in order to be identified as gifted, a child must meet three of the following criteria:

- Achievement test scores of 90 % or above
- Wechsler intelligence scale score of 124-140 or higher
- A score on the figural test from the Torrance tests of 124-140 or higher
- General mental ability tests
- Teacher's nomination

However, as will be seen later, in Section 5.2, various policy documents state inconsistent criteria.

In addition, a number of rating scales have been Arabized or developed for Saudi Arabia. For example, Aldimiati (2004) developed an Arabized version of Johnson's (1980) Gifted Children Scale, measuring five factors: academic distinction, general mental ability, creative thinking, leadership, visual and performing arts, sport and psychomotor. Aljughaiman and Ibrahim (2009) developed a behaviour scale for kindergarten, including motivation to learn, linguistic ability, learning characteristics, personality characteristics, and logical mathematical thinking. However, these have not been mandated and according to Alqefari (2010) IQ and tests of academic performance remain the most used methods of identification.

Comparing the four systems reviewed above, it can be seen that there is diversity of practice both between and within systems. This highlights the importance of having clear, well–communicated and consistently applied criteria for identification. Different measures and methods capture different kinds of ability, so it is important for members of an education system to have a consistent understanding of what is to be measured. All four systems seem to have moved away from single-criterion approaches such as IQ testing, in favour of applying multi-criteria methods of identification. However, most place heavy reliance on

intelligence and achievement testing. This suggests that some of the varied abilities included in definitions of giftedness may not be captured by some of the identification methods used.

3.6 Challenges Faced in the Identification of Gifted and Talented Children in KSA.

As the previous section showed, since the 1990s, KSA has shown an interest in identifying and providing for gifted and talented students. The purpose of this section is to review research by Saudi educationists in the field of gifted and talented education, in order to see whether challenges to identification have been discussed previously. Such a review will help to identify gaps in existing research, as a starting point for this study.

A number of Saudi authors have written on gifted education in KSA, from a variety of perspectives. The most common theme has been evaluation of provision (Al-Shehri et al. 2011; Al-Qarni 2010, Alqefari, 2010; Al-Zoubi & Abdel Rahman, 2015). Other research interests have been perceptions of giftedness (Alamer, 2010), attitudes of teachers towards gifted students (Al-Garni, 2012; Al-Makhalid, 2012), and the impact of Saudi culture on gifted education (Alamer, 2015; Aljughaiman & Grigorenko, 2013), while Alamer (2014) discussed challenges to gifted education in KSA. None of these studies focused specifically on identification of gifted and talented children, although a few (e.g. Al-Shehri et al., 2011; Al-Qarni 2010) discussed identification issues briefly, as background information as part of a general view of the gifted education system. Alamer's (2014) work on challenges in gifted education focused more on challenges to provision, than identification. Even so, these studies provide some useful insights that may be relevant to the identification of gifted and talented students. The issues they raise fall into four areas: policy (Al-Makhalid, 2012; Aljugaiman & Grigorenko, 2013) systemic (Bushnak, 2007; Al-Qarni, 2010; Alamer, 2014), teacher beliefs and practices (Aleisa, 2009; Al-Garni, 2012; Alamer, 2014) and culture, particularly religion (Al-Garni, 2012; Aljugaiman & Grigorenko, 2013).

3.6.1 Impact of Policy

The Saudi government, through the Ministry of Education and the General Administration for Gifted Students, has centralized the administration of gifted education, and controls gifted education policy (Al-Makhalid, 2012). This means that it is the role of the government to set policy not only on provision, but also on identification of gifted children. Since the Saudi education system is highly centralized, teachers have little autonomy – what they do, and

how, depends on government instructions (Aljughaiman & Grigorenko, 2013). In the case of identification of gifted children, this would involve whether or not there is a requirement for schools to identify such children, what criteria are applied and what methods are used. However, researchers report that policy is still being formed; the Saudi education system was designed for the average learner and it is relatively recently that attention turned to gifted education (Aljughaiman & Grigorenko, 2013). It has been claimed that the government is having difficulty in establishing standards and regulations (Al-Makhalid, 2012). One example is the unclear definition of gifted and talented students, as noted in Section 3.2. This will make identification more difficult for school principals, teachers and parents. There are also criticisms that policy does not address cultural complexities involved in adopting Western culture-based identification methods. Authors have questioned the appropriateness of borrowing methods for identification of gifted and talented children from Western countries. This problem is not unique to Saudi Arabia. Yamin and Ambrose (2012) comment that in the Gulf States and Middle East generally, there is a tendency to import and translate European and American identification tools without concern for cultural context, which reduces their reliability and validity. They attribute this tendency (as well as the importation of gifted education programmes) to the lack of a clear vision in the countries concerned. The literature has also emphasised the absence of clear policy for the effective implementation of identification methods, and that regulations are not backed by sufficient standards, clear criteria and techniques (Bushnak, 2007). There are written policies for the schools but these are implemented unevenly; Alqefari (2010) reports that gifted acceleration is applied in only 5 % of primary schools, which could point to failures in identification. Since, in theory, schools in Saudi Arabia are obliged to follow the same central directives and teachers do not officially have autonomy, differences in implementation may reflect differences in resources or in teachers' understanding, as implied later in this section.

3.6.2 Impact of Systemic Issues

As noted previously, education is highly centralized in KSA, and gifted education is no exception: Aljughaiman and Grigorenko (2013) and Alamer (2014) point out that gifted education in KSA is nested in the general education system and inseparable from it. It is therefore subject to the same structural and pedagogical limitations (pedagogy is discussed in Section 3.7.3). Historically, the education system has faced a struggle to expand education in order to meet the goal of access to education for all citizens (Aljughaiman & Grigorenko, 2013). The focus on this goal, together with the high level of centralization, results in a lack

of diversity of educational provision, including provision for gifted education; critics have argued that the education system does not encourage gifted education (Al-Ghamdi, 2007; Alqefari, 2010). This might have implications for gifted and talented children, as there may be little awareness of such children, or little incentive for teachers to identify them, if there is no advantage to the child in terms of tracking or acceleration. In this respect, Al-Qarni (2010) suggests that uneven targeting of gifted education across the regions results in restricted information about identification in some areas, and only a limited number of regions managing to identify gifted students.

For testing purposes, the system assumes that gifted children can be identified from grade 4 (age 9 years); and identification efforts focus on this age, and there are no specific provisions for identification of giftedness in younger children (Aljughaiman & Grigorenko (2013). According to Aljughaiman and Grigorenko, the reason for this is that, in practice, the available instruments employed for testing in KSA are standardized for the 9-16 years age group. This suggests that giftedness in children under 9 years old is likely to be overlooked.

In addition to targeting a limited age range, it is reported that the Saudi education system, in its provision of gifted education, privileges boys over girls, and science and technology over other subjects (Bushnak, 2007). This could mean that giftedness in girls, or in non-science areas, may be overlooked. As Aljughaiman and Grigorenko (2013) point out, Saudi education makes little or no use of ability grouping or tracking, except for a basic choice at secondary school between arts and science tracks. They note that the arts track is considered inferior in terms of opportunities for progression, so it is discouraged by the system. This could mean that students whose abilities lie more in areas other than science may not have a chance to develop and show their talents, and teachers may not expect or look for giftedness in these areas.

Another point worth mentioning is that the growing demand on the education system has resulted in large class sizes in many schools (Ibrahim, 2002). It could be suggested that this might make it more difficult for teachers to observe individual students. As noted in an earlier section of this chapter, observation plays an important role in teacher nominations of potentially gifted students (Callahan & Miller, 2005) so classroom conditions that hinder observation may make identification of giftedness more difficult. Yamin and Ambrose (2012) moreover, note the lack or uneven provision of facilities and resources in schools across the

Middle Eastern region as a whole, creating an environment which is not conducive for the development of gifts and talents.

A further challenge in this respect is the level of training and qualification of teachers. Yamin and Ambrose (2012) argue that the process of identification of gifts and talents should be carried out only by specialised and qualified individuals. However, a problem frequently raised in literature on gifted education in KSA is teachers' lack of skills in psychology, pedagogy and understanding of assessment principles (Alhammed et al., 2004; Budari & Bahebery, 2010; Ibrahim, 2002). Identification of gifted and talented children is not embedded in the training of teachers and supervisors (Al-Qarni, 2010). According to Alamer (2014) there is only one unit, "Introduction to Gifted Education" in the special needs track of teacher training. Altayar (2003) blamed teachers' weakness on the teachers themselves, criticizing their lack of responsibility and professionalism. However, Al-Saqran (2011) reports teachers' complaints that they are being given increasing responsibilities by the Ministry of Education, without the required training to carry them out. This situation suggests that teachers' lack of awareness and understanding of giftedness and talent identification methods may hinder the identification of gifted and talented children in Saudi schools.

3.6.3. Impact of Educational Practice and Teacher Beliefs and Attitudes

Saudi researchers have pointed to several ways in which teaching beliefs and practices pose challenges for gifted education. They have focused on three main areas: traditional teaching methods (Aleisa, 2009; Abu Alkhale, 2014); the structure of the curriculum (Alamer, 2014); and teacher attitudes towards giftedness (Al-Garni, 2012; Al-Makhalid, 2012).

With regard to teaching methods, it has been noted that Saudi education practices originated in a Quranic tradition based on rote learning and memorization, and these methods have expanded beyond religion to other areas, including science **(**Aleisa, 2009; Abu Alkhale, 2014; Alamer, 2014). Yamin and Ambrose (2012: 159) identify a tendency in education systems across the region, to emphasise cognitive development rather than taking an holistic approach, and to focus on "inculcating knowledge, facts and information", requiring students' rote learning of decontextualised information. This, they argue, leaves "little room for creative thinking, discovery of aspirations and development of talents" (Yamin & Ambrose, 2012:159). Authors in Saudi Arabia have criticized continued reliance on such methods, both in teaching and assessment, claiming that they leave little opportunity for creativity, applied thinking and questioning (Aljughaiman & Grigorenko, 2013; Al-Magid, 2003). These

abilities were not highly valued in Saudi education in the past, but more recently, educationalists have called for more attention to these skills, and government education is concerned to develop Saudi students' abilities in these areas as part of its education improvement strategy (King Abdullah Public Education Development Project, 2014). As Tunnicliffe (2010) argued, identification of giftedness raises questions about whether teaching practices support children in developing and displaying their talents. The lack of diversity in Saudi approaches to teaching may reduce the opportunity to display forms of creative thinking associated with giftedness (Renzulli, 2005a; 2005 b).

The structure of the Saudi curriculum has also been criticized, for lack of balance; Alamer (2014) for example notes that at the primary stage, Arabic and Islamic studies make up 75 % of the curriculum, maths and science only about 22 % and there is very little art or sport. Whilst modern definitions of giftedness and talent include ability in a variety of areas (see Section 3.2) an unbalanced curriculum may mean that students do not have the opportunity to reveal their abilities. In particular, primary school students may have limited chance to develop mathematical or scientific potential and yet, as noted above, these are among the main areas targeted in identification of giftedness (Bushnak, 2007). It seems that the curriculum has not kept pace with societal or governmental thinking on the skills valued and needed in the current era.

Identification of giftedness may also be hindered by teacher attitudes. Al-Garni (2012) for example, in a survey of future special education teachers, found that many, especially in rural areas, were resistant to gifted education. Other authors report teacher unwillingness and inability to distinguish gifted and talented children (Alamer, 2010). International research shows those teachers' views of gifted and talented students can influence the identification process (Geake & Gross, 2008). Even where guidelines exist, teachers will interpret them in the light of their beliefs, which are based on their training, experience and assumptions (Koshy et al. 2012).

3.6.4 Impact of Islamic Culture and Law

Islamic law influences every aspect of life in KSA, including education. One of the main areas where this is shown is in the practice of gender segregation; apart from kindergarten, boys and girls study in separate schools, although they follow a similar curriculum, with the exceptions of home economics (for girls) and P.E. (for boys) (Al-Garni, 2012). Cultural perceptions of gender roles lead to social and professional restrictions on girls – for example,

the fields of higher education and the jobs open to them, which have impacts lower down the education ladder (Aljughaiman & Grigorenko, 2013). For example, it is reported that in secondary school, girls are more likely than boys to choose the arts track, although in Saudi Arabia excellence in science is perceived as more related to giftedness (Aljabri & Alahmadi, 2012). The fact that the more limited options for girls drive them into areas of study less valued by society can result in girls being less likely than boys to be identified as gifted (Aljabri & Alahmadi, 2012). It is interesting to note that, according to Aljughaiman and Grigorenko (2013) the number of boys' schools with a gifted education programme is much higher than that of girls' schools. This seems to support the suggestion that fewer girls than boys are being identified as gifted.

Another way in which culture, based on religion, could affect the identification of gifted and talented children is in the range of abilities valued by Saudi society. It was noted in Section 3.2 that the Saudi definition of giftedness refers to excellent performance in areas valued by society. This suggests that characteristics and abilities not favoured in Saudi society may be suppressed, or not associated with giftedness. A prime example is music. In Western literature on giftedness and talent, outstanding ability in musical performance is seen as a sign of giftedness (Dai & Schader, 2002). In Islamic law, however, many authorities prohibit music, based on a broad interpretation of verses in the Quran concerning "idle talks". Alamer (2015) in a survey of Saudi teachers found that, although some personally believed that music is part of the gifted domain, they did not appreciate it for religious reasons. Similarly, a survey of parents' and teachers' perceptions of giftedness (Alamer, 2010) showed that the majority, for cultural reasons, did not appreciate musical ability. Cultural values were also shown in rejection of talkativeness, persistence and rejecting rules. Moreover, cultural assumptions were reflected in a finding that male participants perceived leadership as part of giftedness only in boys (Alamer, 2010).

To summarize this section, previous research in the Saudi context suggests that some aspects of the system and environment for gifted education may influence perceptions of giftedness and opportunity for gifted students to develop and display their abilities. This may result in some potentially gifted children being overlooked. These studies provide a useful starting-point in thinking about challenges to identification of giftedness in Saudi schools.

3.7. Conceptual Framework

This chapter has reviewed definitions and theories of giftedness and talent. It has examined methods of identification of giftedness and talent, and reviewed Saudi authors´ views on the challenges to gifted education in KSA. This section uses ideas from the earlier sections to define a conceptual framework for the research (see figure 7).

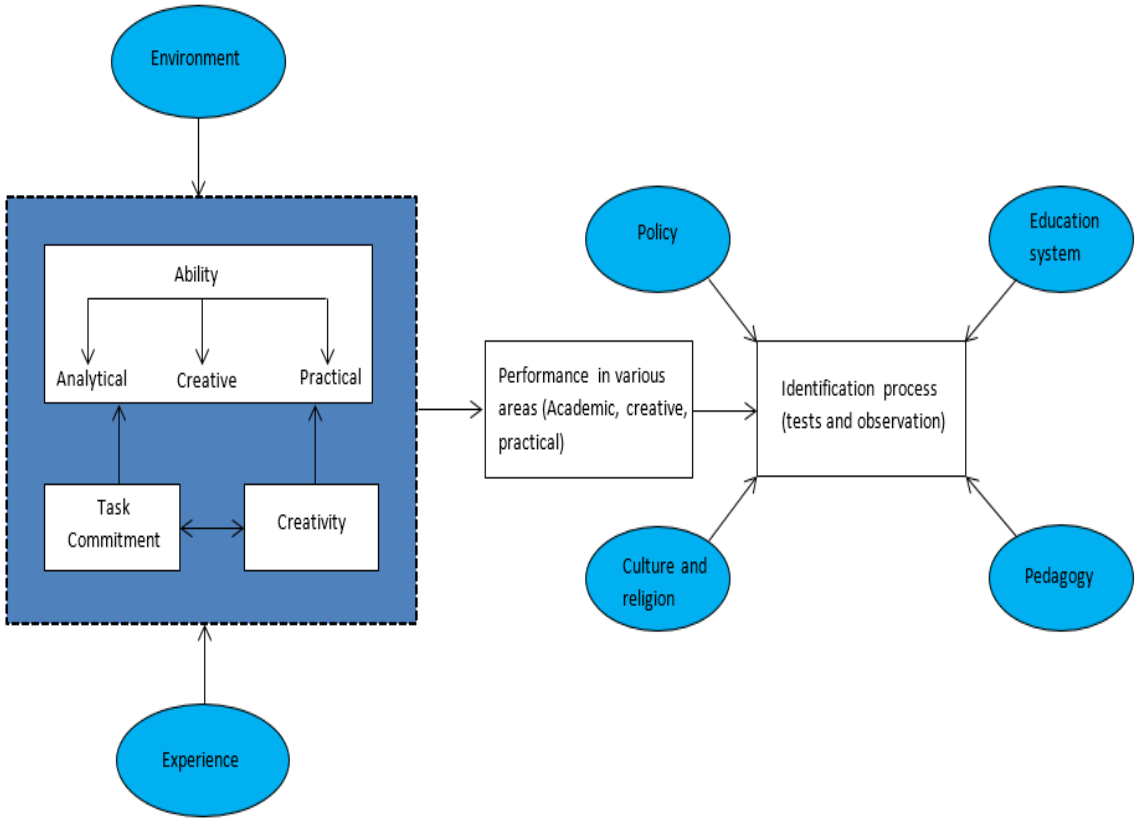

Figure 7: Conceptual model of giftedness/talent identification Source: Based on Renzulli (1984), Sternberg (2004), Alamer (2010, 2014), Aljughaiman and Grigorenko (2013), Al-Makhalid (2012) and Al-Qarni (2015).

Before examining the challenges in identification of gifted and talented children, it is necessary to decide what is being identified, and in turn, what methods would be feasible and valid. Therefore, the framework begins with the theoretical conceptualizations of giftedness and talent selected to inform this study, since this would have implications for identification. As explained in Section 3.4, Renzulli's (1984, 1998) and Sternberg's (2004) models were selected. These reflect implicit and explicit views of giftedness, respectively. They allow a broader conceptualization of giftedness than IQ alone, yet do not preclude the recognition of IQ as one component of giftedness, as shown, for example in Sternberg's (2004) suggestion,

cited earlier, that IQ tests could be one among the multiple criteria advised for identification. These models also allow for the inclusion of some motivational and emotional elements, reflected respectively in Renzulli's (1984, 1998) task commitment and Sternberg's (2004) contextual (practical) intelligence. The thesis follows Renzulli (1984, 1998) in viewing giftedness as a combination of ability, creativity and task commitment, shown by the three rectangles within the shaded square on the left-hand side of the figure that represents giftedness and talent.

However, Renzulli is rather vague on the concept of 'ability'. This limitation can be overcome by including Sternberg's (2004) classification of three types of intelligence. As shown in the figure as three branches within the 'ability' rectangle. This has the potential to include a range of different types of ability and performance; moreover, it can be operationalized and assessed through multiple objective and subjective assessments, as indicated in Section 3.6, which gives practical guidance to teachers for identification. It is also compatible with Renzulli's (1984, 1998) view of giftedness as behaviour. The implication for this study is that the inquiry should take a broad view of giftedness and talent, and should investigate opportunities, practices and challenges related to the identification of giftedness and talent in the Saudi context, in terms of a range of abilities.

Another aspect taken from Sternberg (2004) is the view that the various abilities identified in this theory reflect the impacts of environment and experience. These are represented in the figure by the ellipses above and below the shaded square. The arrows pointing from the ellipses to the square indicate influences from the environment and experience acting on giftedness and talent. This implies, for example, that children need to be given opportunities to develop and display their abilities, that comparisons among students should take account of their background (i.e. judging in relation to peers of similar age, ethnicity, etc.) and that identification of giftedness and talent should be an ongoing process. It will therefore be of interest to identify whether or to what extent these criteria are met in the current Saudi policy and practice; if they are not, this in itself may pose an obstacle to the effective identification of gifted and talented pupils.

All the above-mentioned factors (the child's abilities, task commitment, and creativity, influenced by the environment and experience) are reflected in the child's performance, as shown by the arrow leading from the shaded square to the unshaded box in the centre of the figure. It is assumed that performance (consistent with the definitions of giftedness and talent

discussed in Section 3.2) may take various forms of excellence in one or more academic subjects or applied domains. Ultimately, this is what is measurable or observable by teachers, parents or others involved in identifying giftedness. Since this study is concerned with primary schools in Saudi Arabia, where the responsibility for identification of gifted and talented students falls largely on teachers, it is mainly concerned with the teachers' role in the identification of gifted and talented students.

Drawing on the discussion in Section 3.5 on the strengths and limitations of various measures and techniques for the identification of giftedness and talent, it is suggested that, to capture the broad range of abilities envisaged in the model, a number of different methods would need to be employed. The identification process is represented by the unshaded box to the right of the figure. Sternberg's (2004) list, cited in section 3.5.1, is an example of a multi-criteria approach to identification. It includes traditional measures of IQ, tests of creativity, Sternberg's own STAT, existing performance (i.e. in various curriculum areas) and other measures. This multi-criteria approach includes, but goes beyond, the methods already used and recognized in Saudi Arabia (see 5.3.2).

However, drawing on the literature reviewed in Section 5.7, including Alamer (2010, 2014), Aljughaiman and Grigorenko (2013), Al-Makhalid (2012) and Al-Qarni (2010), it is suggested that the identification of gifted and talented students faces various challenges in the Saudi context, related to policy, the education system, teacher beliefs, attitudes, and skills and the impact of culture, They are shown in the figure by four small, shaded ellipses surrounding the "identification process" box and connected to it by arrows showing the direction of impact. These issues need to be better understood in order to assess their impact on Saudi conceptualizations of giftedness and talent, and the feasibility of implementing various identification methods in the Saudi context. This leads to the framing of the research questions in Chapter 4, intended to explore those issues. The findings will mainly reflect the perspectives of teachers, as the people most involved with the identification of gifted and talented children in the Saudi context. However, given the systemic nature of some of the challenges claimed by previous Saudi researchers (Alamer, 2010, 2014; Aljugaiman & Grigorenko, 2013; Al-Makhalid, 2012; Al-Qarni, 2015), it would also be appropriate to consider the government perspective as reflected in policy documents. Looking at these would enable the identification of how giftedness and talent are officially perceived in the Saudi context, and the assessment of the extent and clarity of guidance for teachers on identification criteria and procedures. They will be interpreted in the light of the assumptions,

reflected in the model, about the concepts of giftedness and talent and how they would ideally be measured. This in turn will enable a critical assessment of how the conceptualization of giftedness and the identification of gifted and talented children can be developed in the Saudi primary school context.

3.8. Chapter Summary

This chapter has set out a theoretical basis for the present study of challenges in the identification of gifted and talented children in Saudi primary schools. It began by exploring the controversial notions of giftedness and talent. The literature revealed a variety of definitions and interpretations over time, and from place to place. Definition of giftedness and talent raises several issues, such as the distinction between latent ability and actual performance, as well as which abilities can be considered as 'gifts' or 'talents'. In contrast to definitions such as one in the UK (DCSF, 2009), which refers to a range of academic, practical and applied abilities, the Saudi definition is vague, referring only to ''fields which are valued by society'', leaving scope for a variety of interpretations. Moreover, it makes no distinction between ''gifted'' and ''talented'', and this field of education in Saudi Arabia is known simply as gifted education. The implications for the study are that Saudi educators may have unclear and inconsistent understandings of what 'gifted and talented' means and in particular, ability in artistic, sporting and leadership fields, which are explicitly provided for in some countries' definitions, may be overlooked. This would have implications for the identification of gifted and talented students, suggesting that understanding current perceptions and working towards a clearer definition would be worthwhile.

The chapter also reviewed a number of cognitive, motivational and emotional theories that can inform thinking about giftedness and talent. Bearing in mind the research focus on identification, the age of the children involved, and the nature of Saudi education, two theories, Renzulli's three – ring model (1984, 2005b) and Sternberg's Triarchic Intelligence Theory (2002), have been selected to inform this study.

Renzulli (1984, 2005b) views giftedness as an interaction between ability, creativity and task commitment. Sternberg (1993) complements this by breaking down ability into three areas – analytical, creative, and practical – while also recognizing the role of experience. Conversely, Renzulli's notion of task commitment can help to explain why some gifted individuals do not continue to develop, becoming what Sternberg called 'gifted has-beens'. Students who do not continue to develop may cease to be regarded as gifted, supporting the view that

identification should be ongoing, not a one-time activity. These theories will be used to interpret perceptions of the current situation in Saudi primary schools, regarding identifying gifted and talented students.

Regarding specific methods of identification, the analysis of the main methods used in the UK, USA, Australia and KSA revealed several insights into similarities and differences between Saudi and Western ideas about identification of gifted and talented students. The comparison of the methods used in KSA with the Western countries has revealed that KSA is using a more limited range of identification methods, mostly tests. This may be because of the existence of several challenges in the country, like the unclear policy, system, pedagogy, cultural and religious challenges. The literature has highlighted a gender difference in identification. Teachers also do not appear to be involved effectively in the identification process, due to inadequate training. Despite adopting Western models and assessment criteria, it seems likely that many gifted and talented children in KSA may not be identified. These ideas from previous literature provide a basis for exploring how a range of factors in the Saudi system and culture may pose challenges for the identification of gifted and talented children. Drawing on the selected theories, this study explores these challenges, in an attempt to suggest how the identification process can be improved. The methods employed in this investigation are discussed in the next chapter.

Chapter Four
Methodology: Design and Implementation

4.1. Introduction

Following on from the introduction of the Saudi context in Chapter Two and a review of literature related to giftedness and talent in Chapter Three, this chapter explains the methodology employed for the empirical investigation of challenges facing the identification of gifted and talented boys in Saudi primary schools. Chapter Two revealed that the Saudi government is interested in the identification of gifted and talented children in order to nurture children with the potential to contribute to the Kingdom's development vision. The chapter showed that the KSA has introduced a project for the purpose, involving policy set by the Ministry of Education and implemented through the regional Departments of Education. Centres for the Gifted and Talented have been set up in major cities and some schools now have "gifted classrooms" with teachers qualified in gifted education. The chapter introduced the selected site (which has one of the Centres and 13 schools with gifted classrooms) as the research location.

It was shown in Chapter Three that giftedness and talent are complex and contested concepts, subject to different definitions, with varying implications for identification. Following Renzulli (1984) and Sternberg (2004), whose theories are known in Saudi Arabia, it was decided in this study to take a broad view of giftedness and talent, as including high potential and performance in a variety of fields - cognitive, creative and practical, implying the need for a range of different identification methods and instruments. Attention has also been drawn to the idea that contextual factors are likely to influence the kind of information available for students to operate on, the way they respond and the way society perceives and evaluates these skills (Gardner, 1983; Sternberg & Zhang, 1995; Pfeiffer, 2012). These issues imply that the identification of gifted and talented students needs to be understood in terms of the specific context in which it takes place. Chapter Three also outlined the measures approved in KSA for the identification of gifted and talented children. These include school achievement, as noted by teachers, and Wechsler and Torrance tests administered by specialist teachers at the Centre. Parents' nomination is also listed as a factor that can be considered, although Saudi authors such as Al-Qarni (2010) have paid little attention to parents' role and indicated that ability testing is the main criterion used.

Saudi educationalists have suggested that the gifted education programme may be challenged by a variety of systemic and cultural factors (see Chapter Three, Section 3.6). They mention, for example, unclear policies, inadequate teacher training, a narrow curriculum and traditional pedagogy that leave little scope for children to display creativity or exceptional abilities, and cultural rejection of certain abilities and traits (Bushnak, 2007; Alamer, 2010, 2014; Aljugaiman & Grigorenko, 2013).

However, so far, the identification process itself has received very little attention; Al-Qarni (2010) lists the methods and criteria approved for use by the Ministry of Education, and claims that historically, IQ has been the main basis of identification – however, there is no information on the extent to which the other listed methods are used. Moreover, as noted in Chapter One, no statistics are available on the number of children identified as gifted and enrolled on the gifted education programme.

In the light of the above-mentioned issues, the main research question is identified as: What are the challenges faced in the identification of gifted and talented children in the selected region in the KSA? Based on Saudi literature discussing challenges to the gifted education system in general (Section 3.6) which identified challenges in four particular areas this question is broken down into four sub-questions, namely:

1. What are the policy challenges faced in the identification of gifted and talented children?
2. What are the pedagogical challenges faced in the identification of gifted and talented children?
3. What are the systemic challenges faced in the identification of gifted and talented children?
4. What are the cultural challenges faced in the identification of gifted and talented children?

These categories are viewed in fairly broad terms and include other potentially relevant factors. Policy, for example, includes legal provisions, while culture includes religion, since religion is a major component of culture in the Saudi context.

Addressing these questions requires a methodology that can explore challenges to the identification of gifted and talented children as perceived and experienced by those involved; teachers in primary schools, specialist teachers and supervisors at the Centre for Gifted and Talented, and to a lesser extent (given their limited involvement in the Saudi context) and

parents. Such a methodology, moreover, should take account of context, including not only the processes applied in schools, but also relevant government policy and wider issues in society. Government policy, for example, decides the methods used in identifying gifted and talented children, but also factors such as school resources, curricula, teacher training, administrative structures and job responsibilities, may play a role in ending or solving challenges to the identification process. Meanwhile, the social environment is the source of the cultural issues discussed in Chapter Three, Section 3.6, which have been suggested to pose challenges for gifted education generally. Although the focus of this research is on those most directly involved in gifted identification in schools and the Centre, these contextual factors cannot be ignored because they interact with schools, teachers, supervisors and parents, and help to shape the system for the identification of gifted and talented children. These considerations influenced the choice of research strategy and methods.

In explaining and justifying the approach taken to this investigation, the chapter is divided into three main parts. The first sets out the philosophical considerations underpinning the research. It addresses questions of ontology and epistemology, the stance of the researcher, and the implications for methodology. The second part is concerned with the choice of research strategy and methods. It is explained that the research was conducted within an overall case study strategy. The case is identified as a specific Saudi regional education district and the selection of specific sites for data collection is explained. A rationale is provided for the use of three qualitative techniques: semi-structured interview, documentary analysis and research notes. Lastly, the third part of the chapter concerns the specifics of implementation, together with a discussion of quality evaluation criteria (dependability, credibility, transferability and confirmability) and ethical considerations affecting the research.

4.2 Philosophical Foundation

Before discussing research strategies and methods, it is appropriate to begin by considering philosophical issues, because choice of research methods depends on how we see reality (in this case, the challenges to the identification of gifted children) and ideas about how we can understand it (Bryman, 2012). Contrasting views on these matters include sets of basic beliefs and assumptions, called paradigms (Guba & Lincoln, 1994). There are differences among authors regarding the number of paradigms they identify and the names they give them, but a general distinction can be made between two types, which early researchers termed analytic and systemic (Salman, 1991) or conventional and alternative (Guba & Lincoln, 1994); they

are now commonly referred to as positivist and interpretivist or constructivist (Denzin & Lincoln, 2005; Mason, 1996). Positivism is commonly described as deductive and objective, while interpretivism / constructivism are said to be inductive, subjective and value-laden (Sandberg, 2005). In this section, the assumptions underlying different paradigms will be considered, and the position taken in this study will be identified. It is important to do this because the choice of paradigm guides the design and the way it is carried out (Gray & Malins, 2004). Ponterotto (2005) highlights that the research paradigm influences the role of values in the research, voice (the choice of an impersonal or more personal style) and the choice of methods. Moreover, the paradigm determines the criteria relevant for evaluating the research quality (Healy & Perry, 2000).

4.2.1 Ontology and Epistemology in Research Paradigms

According to Grix (2004), the starting point for research is ontology, which Blaikie (1993: 6) defines as "concerned with claims and assumptions made about the nature of social reality", while Mack (2010) says it is about what we mean when we say something exists. The essential concern of ontology is whether a social phenomenon exists as a separate entity, regardless of the person observing or is shaped by human experiences, thoughts and perceptions (Bryman, 2012). Positivism takes a realist position, assuming that there is a single reality, external to observers, which can be defined and measured, whereas constructivists take a relativist view, suggesting that what constitutes "reality" depends on the social context (Ponterotto, 2005). This means that multiple versions of "reality" are possible, as each individual will experience and interpret the social world in their own way.

The choice of ontology, in turn, affects the epistemology, which is a view about the nature of knowledge. According to Crotty (1998: 3), it is "a way of understanding and explaining how we know what we know", while Willis (2007) defines it as a concern with what it is possible to know, and how we can gain that knowledge. Bryman (2012) adds two more elements: the acceptability of knowledge (i.e. how we decide what knowledge is valid, reliable, credible and so on) and the researcher's role – detached or involved in the situation he is researching. A researcher adopting positivism looks for facts and regular patterns that can be observed, measured and predicted. He is expected to be detached from the investigation and not to influence or be influenced by it.

In contrast, a subjective ontology (interpretivist/constructivist) suggests a different perspective on knowledge formation. From this perspective, humans are social actors who

interpret the world as they experience it (Saunders et al., 2009). Knowledge comes from people's experiences in specific situations (Mack, 2010). As Crotty (1998) argues, knowledge comes from human actions, when they interact with the world. This means that knowledge is formed and spread in a social context. According to this view, the role of the researcher is to try to understand and explain things through the eyes of the people involved in the research setting (Cohen et al., 2007). In other words, the aim is to understand how people view and experience the world. The following sub-section discusses how these ideas relate to the present study, and explains the philosophical position adopted in this research.

4.2.2 The Paradigm for this Study

As the literature review in Chapter Three showed, the definitions of giftedness and talent and perspectives on how they can be identified, are complex, controversial issues. There is no single, clearly defined concept, either among scholars or across national education systems. In the conceptual framework in Chapter Three, the researcher identified his own understanding of the concept of giftedness and talent, constructed on the basis of a synthesis of published research - one which he believes to be relevant to the Saudi context. Nevertheless, he acknowledges that others may have different understandings. Moreover, individuals will have their own experiences and interpretations of the institutional and social contexts within which they operate. For this reason, this study adopts a constructivist position. It accepts that there may be multiple ''realities'', according to people's experience and context. This means that this study is not trying to find a single reality. Instead, it aims to explore how challenges to gifted and talented identification are seen and understood by the people involved, within the Saudi context. The constructivist position is appropriate, because it can account for social and institutional factors that influence the experiences of those people particularly involved in the identification of gifted and talented primary school children and how they perceive and respond to them. Such a stance was reflected in the Literature Review in discussion of the contested understandings of giftedness and talent, and how these relate to national values (Section, 3.2) as well as discussion by Saudi authors of the impact of contextual (e.g. systemic and cultural factors), on the gifted identification and welfare project as a whole (Section 3.7). It is assumed that in the Saudi context, a variety of influences, many rooted in Arab and Islamic culture, could shape views of how gifted and talented primary school children are defined. These would, in turn, influence perspectives on identification practices and the challenges faced. This assumption is supported by the literature review; for example, Mandelman et al.'s (2010) distinction between the values of

different education systems and their implications for identification of giftedness and talent. Saudi authors, moreover, have suggested the impact of culture on various aspects of the Saudi education system, including gifted education (Alamer, 2010, 2015). Saudi scholars have also suggested that teachers' understanding, perceptions and practices may be influenced by individual factors, such as their training and pedagogical beliefs and values (Alamer, 2014; Al-Garni, 2012; Al-Qarni, 2010).

For these reasons, the researcher assumed that, to gain knowledge and understanding about challenges to the identification of gifted and talented children, it would be necessary to engage with stakeholders involved in that process, in the Saudi context. As indicated in Chapter Three Section 3.5.2.1, because of the way roles and responsibilities are assigned in the Saudi education system, this mainly means teachers and supervisors working under the local Department of Education. These people are seen, from a constructionist perspective, as social actors who interpret their experiences according to their own set of meanings. The research was therefore an attempt to understand these real-world experiences through the eyes of multiple participants (Bazeley & Jackson, 2013). This required entering into the social setting of schools, in order to interact with participants and enter into their world. The research setting is viewed as an environment where different perspectives would meet, interact, and possibly conflict, leading to the development of knowledge.

At this point it needs to be acknowledged that constructionist research is "value-laden" (Creswell, 2013). Like the research participants, the researcher, too, brings his or her values, experiences and assumptions into the research setting. Constructivism does not attempt to avoid or ignore such factors. Instead, researchers should acknowledge them and be aware of how they may affect the research. In this research, for example, the researcher, like the participants, is a Saudi national with an Islamic background, and so would to some extent share the same social influences and biases. In an attempt to balance such influences, the researcher's personal and professional position and motivation in relation to the study were explained in Chapter One, the research context has been described in detail in Chapter Two and reflections on the study will be provided in the Conclusion chapter.

4.3 Choice of Strategies and Methods

The previous sections explained the researcher's decision to take a constructivist approach to investigating the research questions. The rationale for this highlighted the importance of exploring people's perceptions and taking context, including culture, into account. This

section explains how these ideas affected the choice of research strategy and data collection. The choice of a case study strategy and the choice of methods used to investigate the case are discussed.

4.3.1 Case Study

Cresswell (2007: 73) defined case study as

> a qualitative approach in which the investigator explores a bounded system (or case) over time, through detailed in-depth data collection involving multiple sources of information … and reports a case-based description and case-based themes.

In this definition, the idea of a case as a system means that it consists of several elements that interact. It is "bounded" because it can be identified as a separate entity with its own specific location. The boundaries of a case, however, are constructed by the researcher. This means the researcher decides what is included in the case and this in turn influences what data are collected and from where (Cresswell, 2013).

Applying Cresswell's (2007) definition to this study, the "case" is an Education District in Saudi Arabia (see Chapter Two for general background on the selected site). It is a system because it consists of various individuals and institutions that interact together: teachers, supervisors, policy-makers, children, parents, schools, the Centre for Gifted and Talented Children, and the local Department of Education. It is bounded in the sense that the research only includes the selected site itself, the Centre and general primary schools. The other cities of the region are not included. In addition, special schools and Quranic schools are excluded, because they operate under different rules and authorities.

An important feature of case study is that it looks at a social situation or activity in a real-life context (Yin, 2009; Saunders et al, 2009). In this study, this means that the challenges to identification of gifted and talented children in Saudi primary schools are investigated in the settings where this actually takes place, among the people actually involved.

The decision to use a case study strategy was based on the nature of the research questions and the benefits that authors claim for case study research. Saunders et al. (2009) argued that case study is useful for answering 'what', 'how' and 'why' questions. This is consistent with the aim of this study, which is concerned with what is happening or what the challenges are in the identification process and why these things are happening. Robson (2002) adds that case study is suitable for research questions that involve personal perceptions. This is the

case in this study, which is concerned with the perceptions of people who experience the challenges.

A case study provides depth of information on a small number of people or organisations (Easterby-Smith et al., 2002). Because of the depth and detail it allows, the case study is able to reflect the complexity and particular features of the case (Stake, 1995; Bryman & Bell, 2009). According to Yin (2009), it has the advantage of uncovering the facts behind a phenomenon (in this case, the identification of gifted and talented primary school children), from different aspects.

An important advantage of the case study for this research is that it provides a rich understanding of context and processes (Saunders et al., 2009). The identification of gifted and talented children involves a set of processes such as policy-making, training teachers, nominating children, testing and so on. Some of these, notably policy-making, take place at the national level. However, in Saudi Arabia's centralized and hierarchical education system, ministerial policy is passed down to regional level through Departments of Education and intended to be implemented through local structures (such as the Centres for the Gifted and Talented). They are explicitly recognized as part of the case study in this research through inclusion of representatives from the regional DoE and local Centre for the Gifted and Talented, as participants. This is explained in more detail in Section 4.4 on implementation, which addresses the selection of sites and participants. Moreover, as suggested in the literature review, these functions are likely to be influenced by the wider social context, such as culture and beliefs. Therefore, a research strategy that considers these kinds of influences is valuable for better understanding.

Yin (2009) moreover, suggests that case study is suitable when boundaries between a phenomenon and its context are not clear. This advantage is relevant for this study because the identification of gifted and talented children involves people (parents, teachers, supervisors and policy makers), ideas and activities at different levels (school, Centre, Department and Ministry of Education) and across different systems: education, politics, the economy, culture and religion that may pose challenges to the identification process.

Lastly, case study was chosen because, being based on natural settings and experience, the outcomes are true to life (Kemmis, 1980) and relevant to the audience. This study investigates the challenges to identification of gifted and talented children. This is an issue that currently concerns Saudi teachers and policy-makers. If research outcomes reflect

situations that these people can recognise as true to life and relevant, they will be more useful as a guide for future action. It is noted in Section 4.5, for example, that a copy of the research was provided to the Centre for the Gifted and Talented in the research location, to enable staff there (and, in turn, the region's primary schools) to engage with the research outcomes.

4.3.1.1 Types of Case Study

Authors such as Stake (1995), Yin (2009) and Bryman (2012) suggest that there are different types of case study and they have different ways of classifying them. The choice of a particular type depends on the purpose of the study. Yin (2009), for example, suggests that case studies can be descriptive, explanatory or exploratory. This study can be seen as both descriptive and exploratory. It is descriptive because it describes places and procedures. It is exploratory because there has been little research and discussion on the challenges of identification of gifted and talented children in Saudi Arabia (see Chapter Three, Section, 3.6), so little was known about this topic.

Stake (1995) distinguished between instrumental and intrinsic case studies. An instrumental case study is done not only to understand a particular situation but also to accomplish a particular goal. An intrinsic study is carried out where the aim is to better understand a situation and the case is chosen to help in this. It need not necessarily be representative, but it is of interest because it illustrates a particular feature or problem. The education district of the selected location, introduced in Chapter Two, is selected as an intrinsic case; it is of interest because it offers an opportunity to understand how particular systemic, educational and cultural factors operate in a real-life context and the challenges those factors present for the identification of gifted and talented children. Future decisions or actions, such as changes to policy or procedures, are outside the scope of this research; at this stage, the aim is just to gain understanding. For this reason, an intrinsic case study is more suitable than an instrumental one.

Researchers distinguish between single and multiple case studies (Yin, 2009). Yin suggests that multiple cases provide stronger evidence because they allow comparison and replication, so it is possible to show whether a finding applies to more than one case. On the other hand, having more cases can mean that the investigation offers less depth and detail (Hammersley, 1992). A single case can be chosen for a variety of reasons: if it is critical for developing theory, if it is extreme or exceptional, or if it is typical of the phenomenon of

interest. The selected city (introduced in Chapter Two) was chosen because it is thought to be typical of regional cities around Saudi Arabia. It is large, but not on the scale of, for example, Riyadh (the capital) or Jeddah (a major port and commercial centre). Some other cities might be viewed as less typical because of special features; for example, Dammam in the Eastern region has a large number of schools built by the oil company, Aramco, as well as many foreign nationals employed by the company. The Holy Cities (Mecca and Madinah) reflect the impact of large numbers of pilgrims who sometimes settle in the country. In contrast, the selected city is not exceptional in these ways. It has a variety of neighbourhoods, urban and rural, old and new, wealthy and poor. The Education Department is, like other local departments, under the Ministry of Education and expected to apply Ministry policies. It is expected, therefore, that the research location could face similar influences and challenges to most cities around Saudi Arabia. This does not mean that the researcher intends to claim generalisability for the research findings. However, subject to the reader's informed judgement, they may be transferable to other contexts, or at least useful in stimulating research in other regions.

The last distinction made in classifying cases is between holistic and embedded cases. With a holistic case, the case is viewed as a whole. In an embedded case study, the analysis is broken down to the level of separate units, such as institutions or departments. In this study, there are several data collection sites, including the selected site's Department of Education, the Centre for Gifted and Talented and four primary schools (see Section 4.4.2). Nevertheless, they are not analysed as separate units; since the whole case of the education district is viewed holistically. The reason for this is that by analysing sites individually, the big picture might be lost. It is also difficult to separate the boundaries of individual units, for example, between schools and the Centre for the Gifted and Talented, because of the interactions between them. For example, supervisors from the Centre visit schools (and sometimes have an office inside the school). On the other hand, teachers attend the Centre for training. Indeed, as will be seen later (Section 5.3), overlapping and blurring of roles between schools and the centre was one of the challenges identified. Moreover, the aim of this study was to understand the policy, pedagogical, systemic and cultural challenges facing the identification of gifted and talented children, and for that purpose, a holistic analysis seemed appropriate.

To summarize, this research employed a single, intrinsic, holistic case study as a focus for describing the context of identification of gifted and talented boys in a selected location in

Saudi Arabia, and exploring the challenges to that process. The next section explains the choice of data collection methods for this purpose.

4.3.2 Choice of Data Collection Methods

Several authors (Lodico et al., 2010; Have, 2004; Bryman & Bell, 2009) point out that interpretivist/constructionist research is often associated with qualitative methods. The features of qualitative research fit very well with a case study strategy. For example, Maxwell (1996) claims that qualitative research is useful for gaining an in-depth understanding of events, situations and activities, as well as considering a specific context. Qualitative approaches give insight into participants' feelings and opinions (Creswell, 2007). Moreover, data can be collected in the form of participants' own words and quoted to support the researcher's conclusions (Bogdan & Biklen, 2007). Bryman (2012) adds that a qualitative approach gives the researcher flexibility to follow up new ideas.

All the points mentioned above are relevant to this research. The aim of doing a case study was to gain a deep understanding of the situation and activities involved in the identification of gifted and talented children in the specific context of the selected site. It was necessary to explore and understand participants' feelings and opinions in order to find out what they see as the challenges to the identification process. Participants' own words would make the research report more convincing. Lastly, although the literature review suggested some possible challenges to explore (related to policy, systems, pedagogy and culture), it was important to have flexibility for teachers to mention any other challenges they perceived. For all these reasons, this study followed a qualitative approach. In choosing specific methods, the researcher followed the advice of Saunders et al. (2009) and Yin (2009) to use multiple data sources, for triangulation. Robson (2002) argues that this improves validity (validity and other quality criteria are discussed in Section 4.5). Cohen et al. (2007) argue that multi-method designs give a better understanding of complexity, by bringing together different perspectives. The researcher, therefore, selected three methods for collecting the data: semi-structured interview, research notes and document analysis. The following sub-sections explain each method in turn.

4.3.2.1 Semi-Structured Interviews

Interviews have several advantages for a researcher. By talking to participants, researchers can find out about relevant issues that may not be directly observable (Bryman, 2012). For example, in this study, the researcher might not have the chance directly to observe the actual

testing procedures or teacher training, but could learn about them through interviews. Interviews involve personal interaction between the researcher and the participant (Kvale, 1996; Thody, 2006), which is important for more detailed understanding (Banister, 2011). Interviews can allow participants to explain how they think and feel about a certain topic (in this case, the identification of gifted and talented children and challenges that affect it).

The outcomes of interviews depend to some extent on the way they are structured. Qualitative interviews tend to use an unstructured or semi-structured format because this helps to focus more on the participants' point of view and provide rich information (Denscombe, 2007). This study used semi-structured interviews, which have many advantages. They provide a framework for questioning, which makes sure that the research questions are covered (Judd et al., 2009). At the same time, compared with structured interviews, they give more flexibility both to the researcher and the participants. On the one hand, they give participants the opportunity to express themselves in their own way and to show what is important to them (Bryman, 2009). On the other hand, they allow the researcher to change the order or wording of questions, to explain anything that is not clear to the interviewee and to ask new questions to follow up unexpected insights (Bryman, 2012).

Although semi-structured interviews are very flexible, they still need careful planning to ensure that they meet the research purpose (Huberman & Miles) (2002). In line with Bryman (2012), Matthews and Ross (2010) and Jacob and Ferguson (2012), the researcher prepared an interview guide. The interview guide consisted of five broad questions, four of which corresponded to the research questions. In other words, each question introduced a theme derived from previous literature, regarding a likely source of challenge; policy, pedagogy and so on. The intention was that these would be supplemented, in the field, by follow up and probe questions in order to capture rich data. The guide included follow-up questions, such as "What do you mean?" and probe questions, such as "Could you give me an example?", to be used as required. It was important to make sure that the questions were in clear, understandable language and not to "lead" the participants (Bryman, 2012). Following the advice of Birkinshaw et al. (2011), the researcher considered whether the questions would allow participants to express their opinion. With this in mind, the fifth main question was an invitation to each participant to add any further ideas and opinions, related to the overall theme of challenges in the identification of gifted and talented children. The purpose of this was to capture any other challenges that were not anticipated and covered in the previous questions. It was also important to collect demographic information, such as participants' job

titles, qualifications and experience, as this would help in contextualising and interpreting their responses (Bryman, 2012). The interview guide was piloted before use in the main study as explained in Section 4.4.4 under the implementation phase. A copy can be found in Appendix A.

4.3.2.2 Research Notes

Research notes, as used in this study, refer to notes made by the researcher when he entered each setting for the interviews, to contextualise the sites and the case. Bryman (2012) comments on the usefulness of research notes because of the limitations of human memory. Based on Bryman's (2012) categories, these were "jotted notes" (also called scratch notes) – brief sets of key words and short phrases used to jog the researcher's memory of the conditions and facilities noted in each research site. The reason for making these notes was to complement the interview data with information about settings that would help in interpreting participants' accounts of their experiences. Another reason is that previous Arab writers (Aleisa, 2009; Abu Alkhale, 2014) have suggested that challenges to gifted education in general (i.e not specifically identification) might include factors such as resources and teaching methods. Although teaching was not observed and evidence on such issues was mainly pursued through the interviews, these notes, based an informal observation within the settings, helped to set such information in context.

Although these notes were not intended to imply the use of formal observation as a data collection method, the researcher prepared a list of points to look for in each setting in order to be consistent and systematic in making the notes. The first point of interest was the physical structure and layout of the building in the four schools and Centre, including playing fields and rooms for specific activities. The reason for this was that the layout and facilities of the setting might influence the activities available to children; these, in turn, would affect the opportunities for them to display and develop their gifts and talents. The second feature noted was the staffing arrangements – the numbers and categories of staff. Information on these points was obtained from the head teacher in schools, and from the Director in the Centre. The rationale for obtaining this information was to provide context that might have a bearing on participants' perceptions of the challenges in identification of gifted and talented boys. For example, if there was a Gifted Teacher or Co-ordinator in a school, that might affect the awareness of giftedness and the chance of children being nominated for testing as part of the national Gifted Identification programme. Staff-student ratios might influence the choice of teaching methods and activities and the amount of time available for observing the individual

children and noticing their gifts and talents. For the same reason, the size of classrooms and the equipment, such as computers, available were of interest. For example, government documents (Ministry of Education, 2013b) and previous authors (Bushnak, 2007) suggest that the government is especially interested in children who have special ability in science and technology; this raises the question whether the equipment available helps children to show abilities in these areas.

Whilst the outline above is especially relevant to the primary school sites, similar information was also collected in the Centre for the Gifted and Talented because the enrichment programmes at the Centre (see Section 2.6) are intended partly to help in or confirm the identification of giftedness. The facilities and staffing at the Centre would be likely to affect its effectiveness in performing these duties.

The information collected through the research notes, based on information provided by head teachers and the Centre Director, as well as informal observation on visits to the research sites, has been used to inform the description of the research context in Chapter Two, and the introduction of the data collection sites in this chapter. It was also used in interpreting the interview findings for discussion purposes; this will be seen in Chapter Five. An example of the research notes is provided in Appendix B.

4.3.2.3 Document Analysis

According to Yin (2009), documentation is a useful source of evidence in case study research. Documents have several advantages. They can fill in missing data (McEwan & McEwan, 2003). They are preserved and available for reading at any time, as often as necessary. They can provide exact details of names and dates. They can also cover a long time span and multiple settings, which the researcher might otherwise be unable to reach (Yin, 2009). Bryman (2012) adds that they are "non-reactive". This means that there is no personal interaction between the researcher and the author of the document, so there is no opportunity for them to influence each other. However, documents are produced for a purpose, to create a particular impression (Atkinson & Coffey, 2011). This means they can contain bias, or even false information (Yin, 2009). For this reason, when using documents in social research, it is important to evaluate the credibility of the documents. Atkinson and Coffey (2011) suggest a list of criteria for this purpose; the researcher should consider who produced the document and why, whether the authors have sufficient knowledge and authority and whether the meaning is clear.

In this research, documents were used to provide context for the case study. The case concerns the identification of gifted and talented primary school children in the selected site. However, education in this site is part of a national system; the structure of education locally, the organisations involved, the staff and their roles, and the methods of identification of gifted and talented children, all depend on the Ministry of Education. To understand how the system works, and where challenges might arise, it is important to understand the context such as the role of legislation and whether it supports the identification of giftedness. For this reason, the researcher collected documents from the Department of Education in the selected site, containing policies, resolutions and regulations and explanations about the national programme for the identification and education of gifted children the researcher explained the purpose of the study to a Department official and asked for access to relevant documents. A large file of documents was provided, from which the researcher made his selection. A full list of the documents reviewed, the rationale for selection, and an explanation of the use of the documents are provided below. According to Atkinson and Coffey's (2011) criteria, these should be credible sources of information because the Ministry is the organisation with authority on these matters. This does not mean they should be accepted uncritically; sometimes state documents reflect intentions that are not met in practice. Even so, they provide insights into how the Ministry views giftedness, the government's reasons for wanting to identify gifted and talented children, and the methods and criteria for identification. They also provide information on the structure of the system for identification of gifted children and plans for teacher training in relation to gifted education. These points are relevant, since Saudi authors (Alhammed et al., 2004; Al-Qarni, 2010; Alqefari; 2010; Alamer, 2014), have suggested that systemic issues and lack of training are among the challenges facing gifted education generally (see Chapter 3, Section 3.6).

In selecting documents, the researcher asked the following questions, derived from the research aims (Matthews & Ross, 2010).

- Is there any specific reference to the identification of gifted and talented children (for example, a definition of giftedness and talent, rationale for identifying gifted and talented children, responsibilities, procedures)?
- Is there any reference to contextual factors that might affect the identification of gifted and talented children?
- Does the document reveal any challenges to the identification of gifted and talented children?

A further criterion for selection was date; the researcher selected only the more recent documents (2004 onwards) as it was not until 2004 that formal institutional provision for the identification of gifted and talented children was established (Ministry of Education, 2004), so documents before this time would not reflect the current situation. 2004 is an important date in the history of the programme for identifying and nurturing gifted and talented children, because it is the date of establishment of the General Department for the Welfare of Gifted and Talented Boys and Girls and the associated institutional structure, included in Document 1in the list below, and further discussed in Chapter 5, Section, 5.2. In the same year, a detailed scheme for the identification and development of gifted and talented children was drawn up by Aljughaiman (2004) on behalf of the Ministry of Education (Document 7 in the following list).

It is worth noting that this process yielded fewer documents than might be expected, due to the infrequency of explicit reference to identification of gifted and talented children, as opposed to provision for them. All documents, whether national or regional, were issued under the aegis of the Ministry of Education.

The details of the documents selected and their relevance to this study are as follows:

1. Organisation Manual of the General Department for the Welfare of the Gifted (Ministry of Education, 2004).

This national-level document contains the organisation chart of the General Department and sets out the objectives and duties of the Department and its sub-divisions at national and regional levels. The objective of the Department is to nurture gifted children, provide opportunities for them to develop their talents and prepare them to contribute to the national culture. Duties include developing plans for identification, developing and implementing appropriate tests and methods for identification, and developing training programmes for teachers working in the gifted identification programme. These duties are assigned to a dedicated Identification Unit within the Department. The document also lists the duties of local Departments of Education such as the one in the selected research area, to implement and follow up these plans.

2. Organisational explanations for those working in gifted care (Ministry of Education, 2006).

The document names and explains the roles of various individuals and bodies involved national structure for Gifted Care, including the Centres for the Welfare of the Gifted and

Talented, Gifted teachers (in schools and Centres) and Gifted Committees in schools. The document focuses mainly on education programmes for children already identified as gifted, but it lists identification of gifted children as one of the duties of Gifted Teachers, co-ordinators and Centres. Experience in the identification of gifted children is indicated as one of the criteria for working at the Centre. There is a short section on identification, listing the identifying criteria approved by the Ministry of Education, the timing of testing and the expected proportion of children within the school who will be nominated to the Gifted Programme.

3. The Gifted Programme in general education schools (Ministry of Education, 2007). This document sets out the details of a nationwide programme intended to qualify teachers in General Schools as Gifted Teachers. It sets out the rationale for the Government's interest in identifying and providing for gifted and talented children. It also outlines plans for recruiting and training teachers. It is interesting however, that none of the training topics proposed in the document include identification. This is interesting, since training is one of the challenges mentioned by previous Saudi writers (Al-Qarni, 2010; Alamer, 2014). Another point relevant to this study is a claim that the programme is based on the theories of Renzulli (1984) and Sternberg (2004). This suggests that these theories are known in Saudi Arabia and might inform the thinking of Gifted Teachers. This provides an added reason for using them in this study (see Chapter Three, Section 3.4).

4. Procedural manual for acceleration programme (Ministry of Education, 2013a). This national-level document, issued as guidance to schools, is mainly relevant to children who have already been identified as gifted and explains the conditions in which they might be allowed to skip a school year. However, there are three points of interest. First, there are criteria for identifying "exceptional" (gifted) students. Second the programme might raise awareness of giftedness and give teachers a reason for identifying gifted children. Third, the document sets out a long, complex set of procedures, which might be a challenge for teachers wanting to nominate a child. This would occur after initial identification and so is outside the scope of this study. Nevertheless, it helps to illustrate the complexity and bureaucracy of procedures, that characterize the project as a whole.

5. Organisational Manual for Nomination for the National Project for Gifted Identification (Ministry of Education, 2013b).

This document, issued as guidance to teachers, expresses the Government's wish to improve the efficiency of gifted identification. It highlights in particular a focus on science and technology. The section on the nomination procedure contains a long list of specific identification criteria. Failure to explain criteria clearly could pose a challenge to the project.

6. Setting Up Gifted Classrooms (Ministry of Education, 2015b).

This is actually not a single document, but a sequence of short pieces, including a ministerial Resolution, letters and minutes of meetings. The papers concern the decision to set up Gifted Classrooms in selected schools. The papers do not actually mention identification. However, they provide a useful context, especially as the letters are from the Department of Education in the research region, concerning its role in implementing the Resolution. The papers mainly concern the formation of committees and illustrate the bureaucracy involved in implementing government policy.

7. Welfare of the Gifted (Aljughainam, 2004)

This document sets out a national programme for gifted education, proposed by Saudi Arabia's leading authority on the subject. It contains job titles and role descriptions related to the National Project for Identification of the Gifted. These include the roles of teachers of the gifted, and school counsellors, as well as Gifted Welfare Committees in schools. The teacher and school counsellor each have long lists of duties and many of these are administrative. Two duties of the Gifted Teacher are related to identifying gifted students and nominating them for special programmes inside and outside schools. School counsellors are expected "to work towards discovering outstanding and gifted students" (Aljugaiman, 2004, n. p). However, no specific criteria or methods are mentioned. The Gifted Welfare Committee is not directly involved in the identification process but it is expected to raise awareness of giftedness, provide opportunities for gifted children to show their abilities and co-ordinate with Gifted Welfare Centres in teaching children. Specific duties related to identification are listed for the Co-ordinator of the Committee.

8. In-service training for teachers of the gifted (Ministry of Education, 2015a).

This document is a series of circulars from the Department of Education in the research region, to school head teachers, announcing training programmes and asking them to nominate teachers to attend. The circulars indicate the programme topics, the targeted teachers and the dates and times of training. None of the circulars mention identification of gifted children. Even so, the document is interesting because it gives an idea of the Education

Department's training priorities and indicates that lack of training in identification may be one of the challenges faced.

9. Training package within professional development programme series for gifted classes' teachers (Ministry of Education, 2016).

This sets out the details of an advanced Continuing Professional Development (CPD) course for teachers of gifted children in general schools. Like the previous document, it does not include identification of gifted children. The courses provided are related to curriculum, teaching methods and research in mathematics, science and technology. Again, it illustrates current priorities in the subject areas of interest and shows a potential gap in training related to the identification of gifted children, which is supposedly one of the duties of these teachers.

Overall, the documents contain very little about the identification of gifted children. However, this in itself is significant, as it may point to challenges in policy and system areas, especially when viewed along with the data from interviews.

Now that the choice of research strategy and methods has been explained, the next section reports on how they were implemented in the fieldwork.

4.4 Implementation

This section explains how the strategy and methods discussed in Section 4.3 were applied in the field. The section begins by discussing the procedures for gaining access to the research sites. It goes on to explain how sites and participants were selected. The pilot study conducted a few days before the main study is reported. Then, the methods for collecting primary data (conducting interviews and making diary notes) are explained. The section ends with an account of the data analysis procedure.

4.4.1 Gaining Access

In order to carry out the research, it was necessary to go through some formal administrative procedures. The research supervisor provided the researcher with a letter indicating ethical approval and permission for the research (Appendix C). The researcher submitted the form, along with an explanation of the research purpose and the fieldwork plan, to the Saudi Embassy in London. The Embassy then wrote to the Department of Education in the selected region, giving details of the research and requesting authorisation in the form of a short letter stating that the research had been approved and urging cooperation with the researcher. When

approaching potential data collection sites (the Centre for the Gifted and Talented and the selected primary schools), the researcher presented copies of the Department's letter to the Director or headteacher, as appropriate. This evidence of formal authorisation appeared to reassure the selected settings and they were welcoming and cooperative.

4.4.2 Selection of Sites

Six sites were selected for data collection, with the aim of reflecting as fully as possible the context in which gifted and talented primary school children exist and the range of people involved in their identification. The first site selected was the Department of Education, which was selected because the Department is directly responsible to the Ministry of Education for the implementation, at regional level, of government education policy. It oversees all education in the region, including boys and girls, students at all stages, gifted identification and development, and the preparation and in-service training of teachers. Visiting the Department provided an opportunity to learn, through interview and the selection of documents, about government thinking on the identification of gifted children, as well as the structure of the identification system. As explained previously (Section 4.3.2.3) documents were collected at this site; moreover an interview was conducted with a Department representative (see selection of participants, Section 4.4.3).

The second site selected was the Centre for the Gifted and Talented. The Centre was chosen because it is a key link in the chain between the Ministry of Education and schools and plays several roles in the identification of gifted and talented children as well as in provisions for them. The Centre is directly involved in the identification process through testing children sent to it by schools. The Centre also provides in-service training courses on gifted children and sends supervisors to schools to advise teachers and observe their practices. In this way, the Centre has a role in raising teachers' awareness of giftedness and talent and how to identify gifted and talented children. Another of its roles is communicating with schools to inform them of policy and guidelines from the Ministry of Education and the local Department of Education. The Centre's staff was therefore expected to have wide and deep experience of challenges to the identification process, based on their experiences with higher-level education authorities, schools, teachers and children.

In addition to the Centre, four schools were selected. Selection of schools was based on several factors. Firstly, only boys' schools were considered, as Saudi Arabia has a policy of strict segregation in education. It is therefore not allowed for a male researcher to enter girls'

schools. The researcher also took care to include schools from different kinds of districts (central and suburban, traditional and more recent) and both public and private. This was not intended to be a statistical representation of schools in the selected site, and the aim was not to compare sites. Rather, the aim was to experience and understand the variety of settings in the selected site and to obtain a more complete picture of the giftedness identification process. The rationale was that different types of school, with different catchment areas and resources, might differ in the challenges they face in identification of gifted and talented children. The school layout and resources, for example, would affect class sizes, teaching methods and the activities available to children. Differences in these respects are evident in the description of sites that follow in the next sub-section.

Another factor in the choice of school was to include, if possible, some schools that had gifted education classes and teachers. The reason for this was that schools with the recently established gifted classes, by definition, have experience of identification of gifted and talented children. Moreover, gifted education teachers act as co-ordinators in their schools, liaising with teachers who think they have gifted children and referring children to the Centre (see Chapter Two, Section 2.5).

To help in the site selection process, the researcher discussed the aims of the study and the site selection criteria with staff at the Centre. They were able to identify, for example, the 13 schools that had gifted classrooms. It is important to note, however, that the Centre did not restrict the availability of the schools or direct the researcher's choice. Their role was simply as a central point of information; the researcher made the choice of schools. Four schools were selected. They are described below, along with the Department of Education (DoE) and the Centre. In order to protect the identities of schools, teachers and children, school names are not revealed. Instead, each school is referred to by a code letter.

4.4.2.1 Site Descriptions

The following is a brief description of the six data collection sites, based on the notes taken when visiting each site. More detailed notes were taken in the Centre and the schools because they were the sites directly concerned with identifying gifted children and, as noted above, their facilities might affect the opportunities for children to develop and display these talents, and for teachers to observe them. The DoE, however, is an administrative centre and the details of the staffing and the layout were of less direct relevance to this study.

The Department of Education

The Department is situated in a large, seven-storey building in the administrative centre of the selected site. The Department contains a number of separate sub-departments dealing with different aspects of education, and the building contains numerous offices and committee rooms for their use.

The Centre for the Gifted and Talented

The building is part of a governmental school complex. One floor is dedicated to the Centre. It consists of two sections. One is the Department of Gifted Administration, with six offices, one for the Director and five for the use of the supervisors who work at the Centre. The other section is allocated for activities and programmes for teachers and students and consists of five training halls (including a specialist hall for robotics) and a large multi-purpose hall which serves as a theatre, among other uses. In the evening, the Centre has the use of the sports ground belonging to the school complex. The staff of the Centre includes 11 supervisors who visit schools and advise gifted students and who test children referred by schools across the region. There are also teachers who supervise the Centre's enrichment programme for gifted children, held after the regular school day.

School A

This is a public school in a poor, urban district. At the time of the fieldwork, it had 430 children. The staff included the headteacher, two deputies, 33 teachers (including one for the gifted and talented, who taught the gifted children in the school and carried out nominations to the Centre). There was also a teacher for children with learning difficulties, a laboratory technician, a student counsellor and three secretaries. The two-storey building had a shaded yard and two football pitches. There were 15 classrooms and the number of children per class was 30-35. There was one classroom for gifted and talented students. This was the only classroom with a computer and a projector.

School B

This is a private school in a prosperous central district. There were 400 children. Staff included the head-teacher, deputy head and 34 teachers, a laboratory technician and a secretary. In contrast to the other schools visited, many of the teachers were non-Saudi, from the Arab states. There was no gifted education teacher. For this reason, any referral of children to the Centre was done by the "activity leader" (a teacher responsible for organising events such as social activities and competitions). There were 12 small classrooms, which

were crowded, with 33-37 children in each. There was no modern educational technology in the classrooms, but the laboratory had two computers for children's use. There was one football field and an indoor sports hall.

School C

This is a public school in a prosperous district. There were 400 children. The staff included the head-teacher, deputy, 35 teachers (including one for gifted and talented students) and eight non-teaching staff. There were 20 classrooms, including a resources room, a room for children with learning difficulties, a laboratory, and a computer room with 20 computers. Classrooms were large, and class sizes (apart from the class for gifted and talented children and the one for learning difficulties) were of 35-38 children. All classrooms were well-equipped, with computers, projectors and interactive whiteboards.

School D

This was a public school in an old, traditional district. It had a high reputation and exceptionally good resources. There were 301 children. Staff included the head-teacher, deputy, 35 teachers (including a gifted education teacher) and two student counsellors. Facilities included large yards for football, volleyball and tennis and a theatre/assembly hall. There were 13 large, modern, well-equipped classrooms, a resource room, a computer room with smartboard and 30 computers and a laboratory. Mainstream classes contained 28-30 children and there were six children in the gifted class.

It can be seen from these descriptions that the selected schools were in different districts and comprised three public schools and one private. All the schools were large, but they varied in terms of the facilities and resources available. The facilities are important because they could affect the opportunities for children to develop and demonstrate their gifts and talents. The three public schools each had a special classroom for gifted education, with a qualified gifted education teacher/coordinator. The schools were therefore expected to be able to provide useful insights into the process of identifying gifted and talented children and the challenges they faced, from different perspectives. The selection of participants within the selected sites is explained in Section 4.4.3.

4.4.3 Selection of Participants

In this study, the purpose of interviewing participants was to explore their experiences and perceptions related to challenges facing the identification of gifted and talented primary school pupils. It was not necessary to obtain a representative sample because the study did

not aim at statistical generalisation (Cresswell, 2013). The important concerns were participants' relevant experience and their willingness to talk openly about these experiences. For this reason, a non-probability approach was adopted. Following the advice of Merriam (1988), prior networking with the sites, in the form of preliminary emails and / telephone calls to introduce the researcher, and explain the purpose of the study and preliminary visits to meet the staff, were used to identify potential 'information-rich' participants.

In order to obtain a range of perspectives, a decision was made to include teachers and administrators in the schools, policy-makers in the Centre for Gifted and Talented Education and parents of pupils who had been identified as gifted or talented. The reason for this is that each of those categories has a different role in the identification process and might encounter different challenges.

Pupils themselves were not included, for a number of reasons. There could be ethical difficulties in gaining access to interview young children as young children lack the capacity to give informed consent and, in the Saudi culture, because of the cultural norm of family privacy it was unlikely that parental consent to do so would be given. Indeed, it was extremely difficult even to obtain information on which pupils were involved in the gifted programme, partly because pupils nominated by teachers were sometimes not encouraged to participate by their parents, and partly because of parental reluctance to discuss their children. The main reason for not including the pupil voice, however, was that pupils would not be able to provide the specific information needed for this study. They might have experience of enrichment activities and summer schools, but the nature of the activities provided and pupils' views on them were not the focus of the study. Pupils in this age group were not expected to have knowledge of education policy, systemic issues, pedagogy and cultural issues, or to be able to shed light on how these might pose challenges to the identification of giftedness and talent.

The inclusion of specific individuals within the selected categories depended on convenience, i.e. availability and willingness to participate. First, as a point of ethics, it was important not to disrupt the regular work of the participants and the institutions. Second, interested, enthusiastic volunteers would be likely to speak more freely and provide more information to benefit the research. The rationale in selecting each group was as follows.

Administrators (school head teachers) are the link between the school and the outside. They receive policy circulars from the Centre and send referral forms to the Centre if they have pupils for testing. They allocate rooms and resources in the schools and request needed resources from the Ministry. This means that they are involved in systemic issues that might challenge the identification process. They also communicate with pupils' parents, regarding their children's progress.

Teachers include both Gifted Education teachers and classroom teachers. Gifted Education teachers mainly teach pupils identified as gifted or talented. However, they also co-ordinate identification procedures. They are a source of advice for class teachers who think one of their pupils might be gifted or talented. They also complete paperwork for referral to the Centre. Three of the schools, A, C and D (all public) had a Gifted Education teacher. All three of these teachers were included in the study. School B did not have a Gifted Education teacher, but one classroom teacher had some experience of communicating with the Centre, so he was included as a participant.

Classroom teachers were included, because they have close involvement with pupils, and may be the first to spot signs of giftedness and talent. However, they may not always have knowledge, awareness or training related to giftedness. They also have to cope with large classes, overcrowding, and curriculum demands. These factors may affect their ability to give individual attention to each pupil and notice their abilities. A student counsellor was also included in the teacher sample. His role is to guide pupils with emotional and other problems. This might include pupils who are frustrated because they have gifts and talents that are not recognised, or pupils who feel different from their peers.

Policy-makers at the Department of Education and the Centre for Gifted and Talented Education play a role in communicating with the Ministry of Education on the one hand and with schools on the other. They receive regulations from the Ministry, then, according to government law and policy, set plans for the region. In the Department of Education, one person was interviewed: a member of the Department of Teacher Supervision, whose staff visit schools to inspect and advise teachers and deal with any problems they face. They have responsibilities towards all teachers, not only teachers of the gifted and talented. The researcher expected that the interviewee would have broad knowledge of government education policy, teacher training issues, school conditions and any difficulties reported by teachers and school principals across the city. This would help to put the responses of

interviewees in other settings in the wider context of both the government perspective and the implementation of policy in gifted identification across the whole education system in the selected site. In the Centre, policy makers arrange testing for pupils in the region, give guidance to teachers and plan training courses. Participants in this group included two senior officials and three supervisors. They were expected to have insights into national and regional policy. Moreover, since supervisors visit schools, they might be aware of challenges in implementing policy at the school level.

Parents were relevant to this study because the parents have to deal with the school and the Centre, regarding identification procedures. Sometimes parents might be the first to suspect giftedness and talent, and might contact the school to start the identification process. Several parents were contacted about the study and agreed to participate. Most, however, failed to keep the interview appointment, or decided they did not want their information revealed. This can be explained by the suspicion of research among less-educated individuals. In the Saudi culture of privacy, people are generally reluctant to discuss family members and personal matters. The researcher had to respect these feelings. As a result, only two parents could be included. Both of them were educationists. The effect of having such a small and untypical sample will be discussed in the Limitations section in the Conclusion chapter.

The overall sample of the study consisted of 20 participants (see Appendix D). The distribution of participants is shown in the following table:

Table 4: Distribution of Participants

Category	**Number**
Admin (school HT)	2
Teachers: G. & T.	3
School counsellor	1
Class teachers (public & private)	6
Policy-makers: Dept. of Education	1
Senior officials of Centre	2
Supervisors	3
Parents	2
Total	20

4.4.4 Pilot Study

Before conducting the main interviews, the researcher conducted two pilot interviews. The rationale for the pilot study was for the researcher to practise his interviewing skills

(Matthews & Ross, 2010) and to check that the interview procedures worked well (Anderson, 1998). Piloting is also useful for checking the clarity of questions and assessing the time needed to complete the questions (Cohen et al., 2007).

The pilot study was conducted in Saudi Arabia, with a parent and the head of the Centre for the Gifted and Talented. These interviewees were selected on a convenience basis and did not form part of the main study sample. The parent was a colleague of the researcher. The head of the Centre volunteered his services when the researcher explained that he wanted to find someone from the Centre with whom to practise the interview, before conducting interviews for the main research.

The pilot study indicated that the questions were clear and understandable for the interviewees, who were willing and able to talk at length. However, critical reflection on the pilot process led to the conclusion that the researcher had used too many unnecessary supplementary questions. This lengthened the interviews and caused some deviation from the main focus. The lesson learned was that, in the main study, the researcher should give participants sufficient time to answer the questions and not intervene unless it was necessary for clarification or to redirect the interviewee to the focus of the study. Based on this experience, the researcher was ready to interview the participants in the main study.

4.4.5 Main Study Data Collection: Interviews and Research Notes

4.4.5.1 Conducting Interviews

In order to avoid undue disruption to participants' work, all interviews were conducted at pre-arranged times according to each participant's convenience some locations had to be visited more than once in order to meet participants when they had free time. This can be seen from the dates recorded in the list of interview details in Appendix D. All interviews were conducted in a quiet room in each respective setting, free from interruptions and distractions. At the Department of Education and the Centre, participants were interviewed in their own private offices. In the schools, arrangements were made with the headteacher for exclusive and uninterrupted use of the staffroom or an empty classroom, at a convenient time. The researcher began each meeting by introducing himself and explaining the research and asked the participants to sign the Consent Form (see Appendix E). When he was sure the participant was comfortable, the researcher asked for permission to record the interview. As Bryman (2012) points out, recording can overcome the limitations of the researcher's memory and allow him to examine the data thoroughly. It also means that the data can be open to scrutiny

and participants' exact words can be quoted to support the researcher's interpretations. All participants agreed to recording.

In conducting the interviews, the researcher followed the advice of Kvale (1996) and Bryman (2012) to make his questions clear and understandable, to provide structure and to be flexible in responding to participants' answers. He also showed consideration towards the interviewees by giving them time to think, and letting them finish their answers without interrupting. By using a variety of follow-up, probing and interpreting questions (Bryman, 2012), the researcher was able to elicit rich data from the participants.

4.4.5.2 Research Notes

On the first visit to each research collection site, the researcher looked round informally and made descriptive notes in order to contextualise the data. As Bryman (2012) points out, research participants may be worried by seeing a researcher take notes. For this reason, the researcher took brief periods of "time out" to make short notes, and wrote them up more fully at the end of each day.

In each site, the notes followed a similar pattern, based on the protocol outlined in Section 4.3. The notes began with the date and time of the visit. This was followed by an explanation of the site's administration. In the Centre for the Gifted and Talented, this included the role of the Director, the number and roles of supervisors, and means of communication inside and outside the Centre. In schools, this section of the notes included the numbers and roles of staff and the schools' communication with the Centre and with parents. Following this, the researcher noted the number and types of rooms and their facilities. In the Centre, this meant the training halls; in the school, it included classrooms, libraries, and resource rooms. The next section of the notes focused on the staff, identifying the activities associated with the different job titles. This was the last section in the notes on the Centre. However, notes on the schools included an extra section, headed "activities", which included evidence of sports, artistic activities and any extra-curricular activities run by the school.

4.4.6 Data Analysis Procedure

The interviews, research notes and documents provided a large amount of qualitative data, which needed to be organised and interpreted. The research notes were used descriptively to provide context, while the limited references to the identification of gifted and talented children in the documents were grouped under four basic themes: government policy, the institutional structure for gifted education, approved criteria for use in identification of gifted

and talented children, and in-service training of teachers for the gifted and talented project, these being the only themes found in the documents. The vast majority of the data collected and, hence, the predominant analysis task, pertained to the interview data. As Creswell (2013) comments, there is no single, standard procedure for analysing qualitative data. In this study, the researcher employed thematic analysis which is concerned with "identifying, analysing and reporting patterns in the data" (Braun & Clarke, 2006). It is what Krippendorf (2004) calls an "editing" approach and involves analysing the text, physically organising it into manageable segments, coding and looking for themes.

Before starting the analysis, the researcher had to decide whether to analyse the data manually or to use a computer program such as NVivo. Such programs can speed up the sorting of data and allow easy retrieval (Basit, 2003); Creswell, 2013). On the other hand, there is a risk of isolating the data from its context (Krippendorf, 2004). Easterby-Smith et al. (2002) advise that, in a study with around 20 interviews (like this one), it is better to analyse the data manually. Accordingly, the researcher chose to analyse the data manually in order to have closer engagement with the data.

Preparing the data for analysis involved first transcribing the interview recordings. This is a time-consuming process (Collis & Hussey, 2013). However, it is helpful because it enables the data to be read repeatedly and for different data sources to be compared more easily. The interviews were conducted in Arabic, so the transcripts were made in Arabic. When the transcription was complete, the researcher read them repeatedly, while also listening to the original recordings in order to become familiar with the data (Braun & Clarke, 2006). This was also an opportunity to correct any mistakes in the transcription (King, 1994).

The analysis procedure involved a combination of top-down coding, similar to a template approach (Crabtree & Miller, 1999), with bottom-up data-driven fine coding for inductive detail. This approach starts with a small set of thematic codes – small enough to give direction but not so many as to restrict the analysis (King, 1994). King advises that the interview guide is a useful starting point for these initial codes. Following this advice, the researcher took the initial set of themes from the interview questions. It was explained earlier that these corresponded to the research questions and were derived from previous literature on challenges in gifted education. For a copy of the interview guide, see Appendix A. The rationale for starting with a set of themes identified in this way is that it provides a starting framework for the analysis, helps to provide consistency (since the themes are defined in the

literature) and enables comparison with other studies. At the same time, it was important to avoid distorting the data, so these thematic codes were only kept if they appeared genuinely to reflect the data, and the researcher was free to modify them and add new ones if necessary (King, 1994). In practice, however, no data emerged that could not be fitted into the initial set of themes.

Starting with this set of themes, the researcher read through each transcript, highlighting relevant information and collecting segments of text under each theme. At the same time, he developed a set of data-driven codes to capture the details within each theme, and looked for possible new themes. This involved constantly comparing transcripts and reviewing the codes and themes, to make sure they worked with the data (Braun & Clarke, 2006). This process continued until all relevant pieces of text could be fitted into the existing categories. The result was a set of themes and sub-themes responding to the research questions as shown in the table below.

Table 5: List of Codes, Categories and Themes

Codes	Categories/sub-themes	Themes
Interest Commitment	Intention	Education policy
Unclear definition Inconsistent criteria	Application	
Unqualified teachers Lack of specialist teachers Pressure	Teacher-related issues	System
Lack of facilities Budget Teacher-student ratios	Resources	
Role of DoE Supervision of students	Administrative and regulatory factors	
Teachers' motivation Students' motivation Parents' motivation	Motivation	
Nomination process Role of teachers	Selection criteria	Pedagogy
Out-dated Restricted ability range	Assessment methods	
Curriculum Research	Constraint	
Family size Low education Communication between family and school	Family	Socio-cultural issues
Reluctance to acknowledge exceptional ability Opposition to foreign influence	Social conservatism	
Closed-mindedness Fear	Science vs. culture	

Rote-learning Inhibitory rules	Religion	

The outcome is reported in Chapter Five, and discussed in relation to the literature in Chapter Six.

4.5 Criteria for Research Quality Evaluation

Traditionally, research quality was evaluated by the criteria of validity and reliability, which reflect ideas of generalizability, accuracy and stability. However, various authors have suggested that these criteria are not suitable to qualitative research (Yardley, 2000; Sandberg, 2005).This is because they originated in the positivist view, which assumes that there can be a single, true account of reality (Bryman, 2012). This contradicts the constructivist view, which accepts that there can be multiple realities, shaped by the human mind. This research, for example, assumed that participants would have different understandings of the challenges to the identification of gifted and talented children, depending on their experiences, feelings and beliefs.

Because of the problem of applying validity and reliability to qualitative research, authors (Guba & Lincoln, 1994) have suggested alternatives: credibility, transferability, dependability and confirmability. Credibility deals with the question of why readers should accept the researcher's account; does the research report and reflect the feelings and experiences of the participants? (Bryman, 2012). One way to establish credibility is by triangulation (Creswell & Miller, 2000; Shenton, 2004). This can take various forms, according to Easterby-Smith et al. (2002). They include theoretical triangulation (using a model from one discipline in another field); data triangulation (using data collected from several sources), investigator triangulation (when there is more than one researcher) and method triangulation (combining qualitative and quantitative methods). This research used data triangulation, involving data from interviews, research notes and documents (see Section 4.3.2), reflecting the perspectives of people with different roles in identifying gifted and talented children. The idea of this was to look at the case of gifted and talented identification in the selected regions primary schools, from multiple perspectives. It is important to note, however, that triangulation is not looking for consensus and finding differences of opinion does not invalidate the research. In fact, it is expected in constructivist research. Cresswell and Miller (2009) argue that it is important to report negative or contradictory information, in order to reflect complexity and avoid bias. In this research, for example, there might be differences of opinion and

experience between teachers in different job positions, or between the primary schools and the Centre. Another possibility is that teachers' experience may not match the policy in government documents. Such differences are important for understanding the challenges in identifying gifted and talented children.

Another approach to credibility was to make the research outcomes available to the Centre for Gifted and Talented in the research region (and through them, the schools), giving them a chance to engage with and, if they wished, affirm or challenge the research outcomes. This was done after the research was completed.

The next criterion to consider is transferability. This is about the possibility that the research findings might apply in other contexts or in the same context at a different time (Bryman, 2012). It is different from generalizability, which depends on the research demonstrating that the sample and data are representative. This is not possible in a case study where the research conclusions come from the interaction between a particular set of people in a specific context. Instead, the researcher must provide a rich account of the context (Shenton, 2004) to help readers to judge the relevance of the research in the contexts (Lodico et al., 2000). In this study, therefore, the researcher devoted a chapter (Chapter Two) to describing the context of Saudi Arabia, its education system, and gifted education in particular. Information is also provided in this chapter on the data collection sites (Section 4.4.2) and on the research participants (Section 4.4.3).

The third criterion, dependability, is an alternative to reliability. Stenbacka (2001) argues that reliability concerns measurement and so is not suitable for qualitative research. Instead, dependability is concerned with whether proper procedures were followed in the research and whether the conclusions drawn are justifiable (Bryman, 2012). The way to show the dependability of the research is by "auditing"; that is, keeping complete records of all the aspects of the research (Hoepfl, 1997; Miles & Huberman, 1994). In this study, for example, the researcher has kept interview recordings and transcripts, research notes and all the documents received, so that all the data can be traced to their sources. Another way of showing dependability, advised by Sandberg (2005) is for the researcher to be open about his/her motivation, assumptions and values. In this research, this is done at various points in the thesis: in the Introduction section, in this chapter (Section 4.2.1) and in the critical reflections on the research limitations (Chapter 7, Section 7.5).

The confirmability criterion concerns whether the researcher has acted in good faith and not allowed his personal values to interfere with the research (Shenton 2004; Bryman, 2012). Houghton et al. (2013) suggested that confirmability should be assessed by peer or external auditors. In this study, all the steps of the research have been closely followed by the research supervisors. Moreover, as noted above, the researcher has been open about his values and the way he conducted the research.

All the above criteria have been widely discussed in qualitative research (Sandberg, 2005; Creswell & Miller, 2000; Shenton, 2004; Creswell, 2013; Bryman, 2012). However, it is worth noting that other writers have proposed different criteria. Yardley (2000), for example, suggested sensitivity to context, commitment and rigour, transparency, and impact and importance. These criteria, too, are relevant in this research. Sensitivity to context, for example, was shown by understanding and respecting the Saudi culture, including gender segregation, and interacting with participants in a culturally appropriate way. Commitment and rigour refer to thoroughness in the data collection and analysis. This includes, for example, building a rapport with participants in order to encourage full, frank answers. In addition, the Findings chapter uses extensive quotations from the research interviews and documents to illustrate the scope of the data collected and support the interpretation. Yardley's (2000) last criterion, impact and importance, concerns the usefulness of the research. This will be discussed in more detail in the Conclusion chapter (Research contributions, section). However, the researcher has already shown (Chapter One) that this research deals with a topic that currently interests teachers and the government of Saudi Arabia, and one that is potentially significant for education policy and practice and for the Saudi economy, since the identification of giftedness and talent is part of the nation's vision and strategy for development (Ministry of Education, 2009).

Whatever criteria are used to evaluate qualitative research, an important part of research quality is compliance with ethical principles. The next section discusses these issues.

4.6. Ethical Considerations

Conducting this research required participants to discuss their personal and professional experiences related to the identification of gifted and talented children. It is important in the research not to betray the participants' trust, or cause any harm to them. Therefore, the researcher took care to ensure that the research complied with ethical principles. In addition to the departmental ethical procedures of the University of Hull, the researcher consulted the

British Educational Research Association (BERA, 2011). The handbook on "Ethical Guidelines for Educational Research" provided by this organisation is used by many university education departments across the United Kingdom.

As Cohen et al. (2007) summarise, the main concerns in research ethics are informed consent, the right to withdraw and protecting the identity and privacy of participants. In accordance with these ethical guidelines, the researcher ensured that participants gave informed consent to be involved in the research. In order to achieve this, the researcher provided all participants with information about the research process, how their responses would be used, and who would see the research report. Each participant was asked to sign a Consent Form (see Appendix E) to confirm that they understood what their involvement would entail. The ethical disclaimer in Appendix F additionally confirms that the study was properly authorized and participants' consent obtained.

Furthermore, the researcher also recognised the importance of enabling any participant to withdraw at any time from the research, for any reason, and they were informed of this right before conducting the research in accordance with the standard ethical guidelines (BERA, 2011). In several cases, parents chose to exercise this right. Saudis generally place a high value on privacy and consider information about their family especially sensitive. Moreover, in most cases, they are not familiar with research culture, so may be suspicious or embarrassed, despite the researcher's assurances. In such cases, the appropriate course of action was to accept the decision of participants to withdraw without any question. Even though the participants' experiences would have been beneficial to the research, the researcher was aware that any coercion or duress to persuade participants to re-engage with the study should be avoided (BERA, 2011).

Additionally, confidential and anonymous treatment of participants and their data is standard research conduct. The researcher therefore acknowledged the entitlement to privacy, confidentiality and anonymity when recording the interviews. In order to ensure this, the research location is not identified, in order to protect participants in the Department of Education and the Centre - each the only example of its category in the research location. Moreover, the schools and participants are given codes, rather than revealing their identities. The case of the Centre is slightly different; there is only one centre in the selected location, so it is identifiable. Nevertheless, the researcher avoided naming the individual supervisors who

participated. Moreover, since research is one of the Centre's roles, participants understood what their engagement implied.

Furthermore, in order to adhere strictly to ethical procedure in the research, the information collected from the respondents was used for research purposes only, and no other business was conducted using the information they disclosed (Charmaz & McMullen, 2011). The respondents were assured that the information they disclosed would be kept safe and that no other person would have access to it.

As well as ethical responsibilities towards participants, the researcher has responsibilities to the research community, and to readers. This meant giving a fair and honest account of the research and acknowledging all the data sources used. Before leaving the field, the researcher obtained a letter from the Education Department in selected region of KSA, confirming that the data collection had been completed (Appendix E). The researcher took steps to demonstrate trustworthiness in every aspect of the research (Creswell, 2013). Being trustworthy was key not only to providing a fair interpretation of the data, but also to ensure that all participants were reassured, as their feelings of reassurance would ensure that the information they gave would be as close as possible to an authentic conversation that genuinely reflected their perspectives on the challenges they perceived.

4.7 Summary

This chapter has described and explained the methods selected for exploring challenges to the identification of gifted and talented children in the selected region of KSA. Based on the research context (Chapter Two) and previous Western and Arab literature (Chapter Three), the researcher concluded that identification of giftedness and the related challenges are complex, contested issues, influenced by context. He therefore adopted a constructivist position and decided to employ a case study strategy in order to explore how policy-makers, education supervisors, teachers and parents perceived and interpreted the challenges to identifying gifted and talented children in the selected context. Data in the form of semi-structured interviews, research notes and documents were collected from six sites: the Department of Education in the selected site, the Centre for the Gifted and Talented, and four primary schools. Participants included an official from the Department of Education, senior managers (2), and supervisors (3) from the Centre, 12 teachers (including head teachers, a school counsellor, general class teachers, and gifted class teachers) and two parents. The researcher analysed the data thematically. The chapter explains how quality criteria and

ethical considerations were addressed in the research. The collected data are presented in the next chapter.

Chapter Five
Analysis of Themes

5.1. Introduction

As explained in Chapter Four, Methodology, in order to explore the challenges to the identification of gifted and talented children in the selected site, data was collected by means of semi-structured interviews, research notes, and analysis of government documents. Documents were obtained by personal communication with the Ministry of Education. Twenty interviews were conducted in six sites: the Department of Education, the Centre for the Gifted and Talented and four primary schools (three public and one private) in different catchment areas. The research notes were taken at the same six sites to describe the infrastructure, facilities and staffing arrangements. The purpose of this chapter is to provide a thematic account of the collected data. First, the themes in the documents are analysed, then those from the interviews. The latter themes are derived from the research questions which, based on the literature review in Chapter Three, explored challenges related to education policy, the education system, pedagogy and the Saudi culture. In this chapter, policy and systems issues are presented together, as in practice they are closely interlinked. Then, perspectives on pedagogy and perspectives on socio-cultural factors follow. It is important to note that, although some contextualising comments are provided, this chapter is mainly descriptive – detailed discussion on the findings in the light of the literature is reserved for Chapter Six.

5.2. Document Analysis

A variety of documents were provided for this study by personal communication with the Ministry of Education (see Chapter Four, Section 4.3.2.3, for a list of the documents and selection criteria). Although these contain relatively few and brief direct references to the identification of gifted children, the government documents reviewed provide insights into the government policy on identification of gifted and talented children, the institutional structure and personnel involved in gifted identification, approved criteria to be used in the identification process, and in-service training offered in the area of gifted education. In this section, these areas will be discussed in turn. It should be noted that none of the documents were paginated. However, quotations are identified by section and/or article numbers, where these are used in the document concerned.

5.2.1. Government Policy on Identification

According to the Ministry of Education (2004), the General Department for the Welfare of Gifted Boys and Girls was set up with the objective of providing an appropriate educational environment for gifted children to develop their capabilities and talents and to "prepare them to contribute to the cultural and national edification". In other words, the establishment of the Department reflects the government's intention to identify and make special provision for gifted children, on the rationale that these are a resource for the Kingdom and will contribute to its development.

The government's interest in identifying and making special provision for gifted and talented children is also reflected in a policy document (Ministry of Education, 2007) introducing a programme for providing general education schools with full-time teachers qualified in the area of gifted education. The rationale given is that all children should have education suited to their abilities, and that gifted and talented children should be provided with a sufficient level of challenge to ensure their abilities continue to develop. However, there is a contradiction between the claim in this document that opportunities for development apply to "all their potentials and abilities, whatever their variety" (2007: n, p) and other documents that suggest a more limited focus. For example, the organisational manual for nomination to the National Project for Gifted Identification (Ministry of Education, 2013b Section 1.2) sets out the objective, "identification of gifted students in the Kingdom in the fields of science and technology". Consistent with this emphasis, two documents concerning in-service training in Gifted Education (Ministry of Education, 2015b, 2016) target specifically teachers of mathematics, science and technology. The emphasis on these subjects suggests that in practice, the government may place value on these subjects, presumably on the grounds that these are the subjects that the government considers most useful to the country's development plans. However, this raises a concern that children whose gifts are in other areas may not have the same opportunities for identification as gifted.

5.2.2. Institutional Structure

In addition to declaring the government's interest in gifted children, the documents explain in detail the institutional structure for identifying and providing for gifted children; indeed, most of the documents are concerned with rules, regulations, reporting chains and administrative responsibilities for a large system of departments, units, committees and individuals, at national, regional and local levels. The earliest document reviewed (Ministry of Education, 2004) sets out the objectives and organisational structure of the General Department for the

Welfare of Gifted Boys and Girls (later referred to as the Department for the Gifted and Talented) as a department directly under the Ministry of Education, with affiliated units within the regional Departments of Education. The Department has responsibility for all plans and activities related to the identification of gifted children at all school stages and for providing special educational programmes for them. The duties of the Department in the area of gifted identification include:

- Develop plans related to the identification and welfare of gifted boys and girls.
- Develop, implement and assess appropriate tools and mechanisms for the identification of gifted boys and girls.
- Develop training and rehabilitation programmes for the male and female staff working on the identification of gifted boys and girls during the stages of implementation

(Ministry of Education, 2004: n.p).

The Department's duties are carried out through a Secretariat, a Research and Development Department, Welfare and Enrichment Programmes Department and the Unit for Identification of Gifted Boys and Girls. The duties of the latter unit are listed separately, within the same document (Ministry of Education, 2004) but are identical to those of the General Department, listed above. Moreover, the organisation chart (see Figure 8) suggests that there may be some overlapping and duplication of responsibilities within the Department, because the Centres for the Gifted and Talented (in this document termed Welfare Centres for Gifted Boys and Girls) are located under the Welfare and Enrichment Programmes Department, yet they also have some responsibilities for the identification of gifted children (Ministry of Education, 2006). The same is true of the "Welfare Units" (also called committees) in the schools.

The organisational chart of the Department (Ministry of Education, 2004), as well as the 'Organisational Explanations' for the gifted education programme (Ministry of Education, 2006) reveal a large bureaucratic structure with multiple levels and extensive administrative duties. This view is reinforced by a set of correspondence related to the decision to set up gifted classrooms in schools (Ministry of Education, 2015a); the papers show months spent in establishing committees and presenting reports.

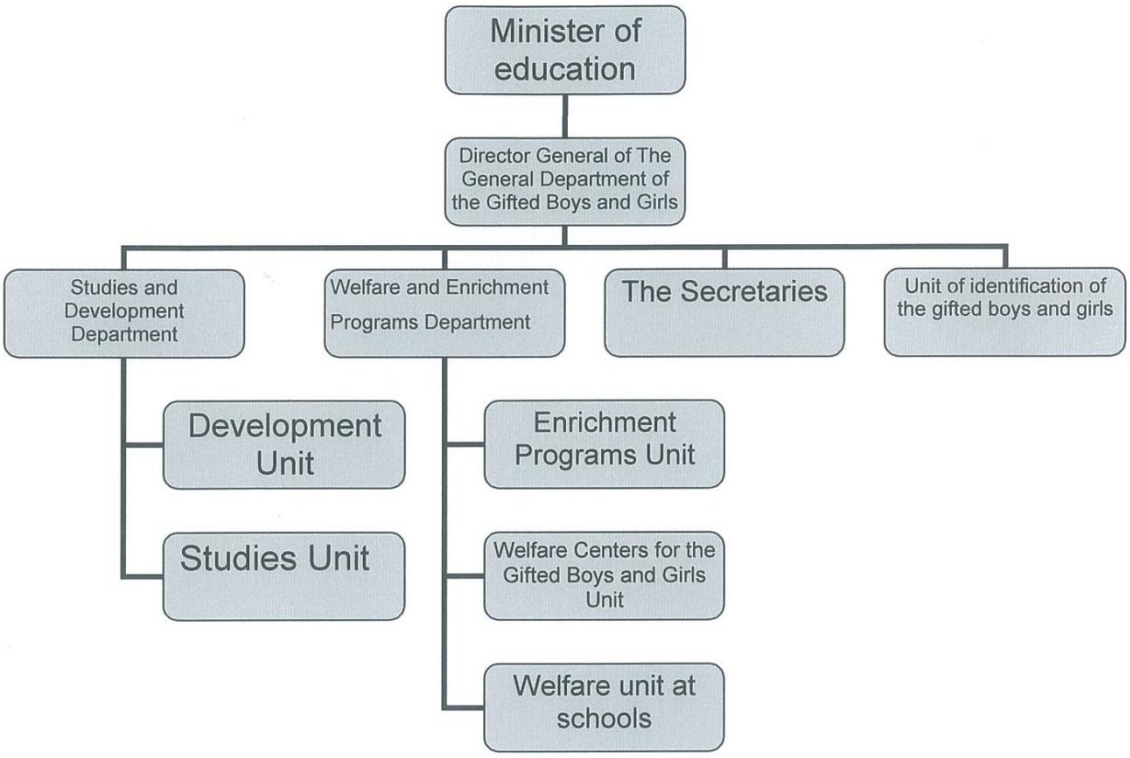

Figure 8: Organisational structure of the General Department for the Welfare of the Gifted Boys and Girls

It is notable that the documents related to gifted education contain more provisions on "gifted welfare" than they do on gifted identification. An example is the Organisational Explanations document (Ministry of Education, 2006) circulated to all regional Departments of Education, which sets out the duties of the Centres for the Gifted and Talented, and gifted programmes in schools. With the exception of Section 9, setting out identification criteria (discussed below), the detailed provisions are all about "gifted care'' or "welfare" and ''enrichment programmes''. Similarly, Aljughaiman (2004) in his detailed job descriptions for personnel involved in gifted education, and the Ministry of Education (2015a) in its provisions for setting up Gifted Classrooms, both focus only on nurturing those children identified as gifted, and contain no explicit provisions on identification. They do, however, indicate that teachers, school counsellors and head teachers have some roles in the identification system. For example, according to Aljugaiman (2004: n. p), school counsellors are required to "work towards discovering outstanding and gifted students" (although there is no explanation of what such work is expected to entail) while head teachers are to set up Gifted Welfare Committees in their schools to promote the identification and development of gifted and talented children, through coordinating with the Centres for the Gifted and Talented on testing and nomination issues.

Overall, the features of the gifted education system that emerge from the documents are the large, complex bureaucracy involved, the duplication of responsibilities, and the lack of clear, specific provisions on gifted identification, compared with the "welfare" (educational provision). These policy and systemic issues could be a source of confusion, which would potentially pose a challenge to the identification of gifted and talented children.

The above-mentioned documents appear to reflect an assumption that simply establishing an institutional structure for gifted education and declaring the intention and responsibility for identification of gifted and talented children are enough to ensure the issue is addressed. There also seems to be an assumption that the individuals and entities involved in gifted education know how to play their expected roles in the identification process, and have the requisite skills to do so,. As will be seen in later analysis of the interview data (Sections 5.3.2.1 and 5.3.3.1), these assumptions are unwarranted.

5.2.3 Approved Criteria

A further potential source of confusion is that none of the documents contain a clear definition of gifted and talented children. Three of the documents (Ministry of Education, 2006, 2013a, 2013b) contain identification criteria and methods, but they are inconsistent. The document concerning nomination of children for the Gifted Programme sets out six criteria that may be used: the Torrance test of creativity; tests of special mental abilities; the Wechsler scale for children; personal characteristics (unspecified); academic achievement; and "creative product". Children must meet two or more criteria, one of which must be objective, in order to qualify for nomination (Ministry of Education, 2006 Section 9, article 1). The document goes on to suggest that the proportion of children nominated within the school is expected to be from 15-20%. (Ibid; article 3). This is a very high percentage, perhaps reflecting the fact that nomination to the programme is a first step – further identification procedures may follow while the child is engaged in enrichment activities. The other two documents, concerned with nomination for other purposes, state lower percentages. A document (Ministry of Education, 2013a)setting out the procedures for nominating children for acceleration (skipping a school year) says that "exceptional children" who qualify for acceleration are those who "perform early all stated skills of the primary school subjects more than their peers", and later states that the first stage in identification is the "identification scale for the gifted" (the document does not specify which scale) and that the "top 3%" will qualify (Ministry of Education, 2013a: n. p). In the same year, the rules for nomination of children for the National Project for Gifted Identification refer to "talented

students not exceeding 5% of the total students in general education stages within different types of schools from the 3rd primary class to the 3rd secondary class" (Ministry of Education, 2013b: Section 1.5). These inconsistent criteria, used by different departments for different purposes, are likely to create confusion for teachers and suggest that the outcomes for individual children will be inconsistent, depending on who nominates or assesses them, and for what purpose.

5.2.4 In-Service Training

The last theme identified in the documents is the in-service training of teachers in relation to gifted education. Three of the nine documents address this; it is not mentioned in the other documents, being outside their purpose and focus. Of the three addressing training, one is a document setting out the proposed programme for training general teachers to enable them to work in gifted education (Ministry of Education, 2007); the others concern in-service training for teachers already working with children identified as gifted (Ministry of Education, 2015b, 2016). The first document, on a training programme to prepare general teachers to teach gifted classes, sets out the plans for recruiting candidates, and an outline of programme structure and content. The programme consists of an initial intensive programme of 120 training hours over a 1-month period, followed by workshops one day a week, for training and panel discussions. The list of suggested topics for these workshops includes seating plans, organising school schedules, motivation, creating enrichment units, thinking skills and self-learning methods. However, the document does not mention training in the identification of gifted children, even though identification is one of the duties of gifted education teachers (Aljughaiman, 2004), and teachers who originally qualified under the general teacher preparation track (see Chapter Two) will not have received such training as part of their pre-service preparation. An interesting feature of this document, however, is the claim that the programme content and philosophy are informed by Renzulli's (1986) Three Ring theory and Sternberg's (1985, 2001) Triarchic Intelligence Theory. A brief outline of each theory is given in the document. The account of Renzulli's theory is used to draw two implications: that children should not be nominated for the Gifted Programme based on IQ alone, and that teachers of gifted children should encourage their motivation and creativity. In discussing Sternberg's theory, the document highlights the need for teachers of gifted classes to develop children's triarchic abilities, and the need to design enrichment units with this in mind.

The two documents on in-service training for teachers in gifted classrooms (Ministry of Education, 2015b; 2016) similarly do not indicate training in the identification of gifted

children – perhaps it is assumed that teachers already have this knowledge, although general teachers nominated and hastily prepared to transfer to gifted education probably do not, as indicated above. One document (Ministry of Education, 2016) sets out the content of the training programme, which covers mathematics, science, technology, and the development of "enrichment units". It is concerned with developing teachers' skills in developing curricula and activities for gifted children, and in developing teachers' ability to conduct research. The other document (Ministry of Education, 2015b) is a set of circulars to school head teachers, announcing planned training courses and asking them to nominate teachers and arrange for them to attend. The letters clearly state that the courses are aimed at "teachers of the gifted", and specifically maths and science teachers. Programme titles include "Preparing an enrichment programme", "Creative problem-solving", "Methodology of scientific research", and "Practical experience in the gifted classroom". Once again, there is no focus on identification of gifted children, and the training is not available to general class teachers.

5.2.5 Section Summary

Viewing the documents overall, there is little to support the identification of gifted and talented children, apart from expression of government interest, and the availability of provisions for children once they have been identified; this may, at least, provide some encouragement for teachers to identify such children. However, the documents also point to possible challenges to the identification process: complex bureaucratic structures, duplication of roles and responsibilities, inconsistent and unclear identification criteria, a focus on only a few academic disciplines, and a lack of attention to identification of gifted children in teacher training. In the Discussion chapter, these indications from the documents will be linked with participants' interview responses (reported in the next section), and with the literature review from Chapter Three.

5.3 Analysis of Interview Data

In the following sections, in order to protect the identity of participants, the following codes are used: PUST (public school teacher), PRST (private school teacher), PM (policy maker, referring to interviewees from the Department of Education and the Centre) and PT (parent), followed by a number: 1-9 for PUST, 1-3 for PRST, 1-6 for PM and 1-2 for PT. Teachers with special responsibilities (head teacher, deputy head teacher, school counsellor) are referred to as PUST, since they are all teachers by training and experience.

5.3.1 Perspectives on the Education Policy

In this study, 'education policy' refers to the regulations and implementation guidelines set by the Ministry of Education, which is intended to be implemented by the Departments of Education and other units and committees at regional level.

Some participants acknowledged that the Saudi government is committed to identifying gifted and talented children. For example, PRST3 commented:

> *The educational policy in Saudi Arabia is seeking to find talented [children] and highlight their abilities, develop their abilities … and also it seeks to detect and prepare talented students to contribute to the building of the community*.

However, some participants noted a failure in policy to define giftedness and identification criteria.

Several participants commented that, although the government was keen to identify gifted and talented children, it was difficult to do so in practice, because of "*lack of availability of clear standards to enable identifying the talented student*" PUST (8) resulting in confusion, subjectivity and inconsistency in the standards applied. The two parents interviewed similarly highlighted the elusive nature of the concept of giftedness, which PT1 described as a "*spiky concept*". Although the parents were both experienced educators, they admitted that they found the concept unclear. As PT1 questioned, "*Do you mean the talented (child) is smart? Genius? Superior? Outstanding? Creative? Or innovative? Is there a Western concept and an Eastern concept of the talented? Each of these points is a challenge for me*." PT2 agreed as to the lack of clarity: "*There are no standards, we do not know the mechanism at all*." Both these parents, despite having children who had been identified as gifted, admitted to having no idea on what basis the identification had been made.

Whilst these interviewees perceived that no clear definitions and criteria exist, another problem may be related to whether or not policy is effectively communicated. This point was suggested by a teacher in school C who, when asked about policy and system challenges to the identification of gifted and talented children, began by saying "*I am unaware of the approach of the Ministry's policy*" (PUST 1), although he raised several points based on his personal experience.

A sense of confusion and inadequacy in relation to the Gifted Identification and Welfare Project (defined and described in Chapter 2, Section 2.6) was noticeable among most of the

teachers interviewed, and it was suggested that these problems were related to a failure in policy to take sufficient account of the teachers who have to implement it.

5.3.2 Perceptions on the Education System

"Education system" is defined to mean everyone and everything involved in educating children in private and public schools, at all school stages.

Participants identified a variety of policy and system factors, which in their view posed challenges in the identification of gifted and talented children.

Participants perceived weakness in the implementation of the gifted education policy on the identification of gifted and talented children, expressed as system factors. They drew attention to issues related to the number and competencies of teachers, raised concern about education programmes designed for "the average student" that do not take account of student diversity and individuality, and criticised inadequate infrastructure and resources in schools, which affect the opportunities available to children. They also perceived weakness in the relationships among the different levels of the system (the DoE, the Centre and the schools) and inadequacy in the way these agencies performed their roles. These perceptions are explored in the following sub-sections.

Teachers and policy makers agreed that there were several problems in relation to teachers; these are the subject of the first sub-theme.

5.3.2.1 Teacher-Related Issues

Participants almost all agreed that the identification of gifted and talented children faces challenges related to the number, competencies and attitudes of teachers. Sub-themes included a shortage of teachers, made worse by absenteeism, lack of specialised teachers (related to the focus and level of teacher training) and pressure on teachers due to time constraints and workload. Several participants, moreover, voiced their perception that there were differences in teaching staff and in attitudes towards gifted education, between public and private schools.

5.3.2.1.1. Lack of Qualified Teachers in the Selected Region

The lack of qualified teachers in the selected region was identified as one of the key challenges in identifying gifted and talented students. By this they meant that some teachers were products of older systems in which graduates in any specialism (and even, earlier till,

people with only secondary school education) were recruited as primary school teachers without training in education, in order to meet the needs of the growing education system. This is no longer the case; teaching is becoming a graduate profession. However, older teachers recruited under these former polices are still in post. Respondents recognised that qualified teachers play a pivotal role in the identification of gifted and talented students, yet, there are not enough of them in the region. In particular, the data suggests that the lack of qualified teachers affects the methods used in identifying gifted and talented children and the confidence of the teachers involved and could even lead to absenteeism among teachers, who perceived that they were struggling. According to PUST 2 the lack of qualified teachers in the region "*affects the whole education system including the identification of gifted and talented students.*" He also noted that, as a result of the lack of qualified teachers, "*there is a low attendance of teachers throughout the region*." PUST 2 further shared his personal experience in the identification of gifted and talented students. He admitted that he was not a qualified teacher and personally found it difficult to do his work in relation to the identification of gifted and talented students because he was not well trained. As a result he sometimes felt overwhelmed by his job and suffered from stress, so he absented himself from school. Similarly, PUST 6, a teacher of gifted and talented children, argued that, in his opinion, teachers must be qualified to enable them recognise and deal properly with the demands of the identification of gifted and talented students. PUST 6 also suggested that the current lack of qualified teachers in the selected region is a result of the fact that the gifted and talented project is a recent introduction to the region. In his words, "*Unfortunately this region has just begun the identification process of gifted and talented students. That is why we still lack qualified teachers*." PUST 8, a deputy headmaster, also mentioned that "*Because there are no real qualified teachers for the gifted and talented project throughout the region, this affects the methodology used in identifying students in schools …*" Although he did not provide any further explanation of his comment, it is interpreted to mean the way and manner in which children are identified as gifted and talented.

PT2, a father of a gifted and talented student, similarly noted that "*the biggest challenge for me is the lack of qualified teachers*."

PM 4, who worked with the DoE in selected site, suggested that, "*because of the large number of students in the region, I mean both in public and private schools, we don't have enough qualified teachers to meet the needs of everyone …*" PHs 5 also suggested that, "*among the challenges, there is the lack of qualified teachers*". This, in his view, affects "*the*

productivity of the only Gifted and Talented Centre in this region." On the same theme, PM 6 commented that, "*In my experience, the major challenge is the lack of experienced teachers who have the requisite knowledge … We require qualified teachers to help identify the gifted and talented among the students*."

The lack of qualified teachers was hence identified as one of the challenges in identifying gifted and talented students in the selected region. While there was no unanimity on the impact this has on the gifted and talented project across the categories of respondents, the data suggests that it impacts on the methodology used in identifying gifted and talented students and the confidence of the teachers involved, which in turn leads to teachers' absenteeism. The next sub-theme looks at the lack of specialised teachers as a challenge.

5.3.2.1.2. Lack of Specialised Teachers

The lack of specialised teachers in the selected region was identified as a challenge closely related to the lack of qualified teachers. Respondents maintained in their answers that the two are similar but not the same. Qualification refers to the level of training received, specialisation to the field of training, referring to the two-track system mentioned in Chapter Two. Respondents also argued that the lack of specialised teachers in the region can be traced to two factors: first, the focus area of teacher training and second, the level of teacher training. PM 1 commented that:

> *Lack of specialists in this field is the biggest challenge. In this region, for example, we have no specialist graduates as such. Instead, we have three educators who are not specialists originally in evaluating gifted and talented qualities, but are only nominated by the DoE*.

He commented that this challenge is not only apparent in the selected region, but it is also common over all the regions of Saudi Arabia. The problem, it appears, lies in the small number of university graduate teachers interested in the gifted and talented project. The majority of respondents observed that the selected region is a vast geographical area, yet has very few teachers specialised in the area of gifted and talented children. They further argued that all teachers currently working as gifted and talented teachers in schools are only nominated to this role. In other words, they had trained as general education teachers. In Saudi Arabia, teaching of the Gifted and Talented comes in the category of Special Education, which is a separate track in teacher preparation. General education teachers may have learned little or nothing about this in their pre-service training, but have been nominated

because of the shortage of specialist teachers. The above view was corroborated by other respondents in their comments. For instance, PUST 3, a teacher of gifted and talented students, confirmed that he was nominated, like other teachers, into the role. According to him, "*Actually I am not an expert in this area and that is the miserable reality. Not being a specialist is the most important challenge in my opinion*." He added that he was recruited only a year previously into the role following an announcement of the need for a number of teachers to occupy such positions. He further narrated that:

> *We are a group of ordinary teachers but we are not specialists in gifted and talented children. I am a teacher of Islamic subjects like other teachers, with nothing related to the specialisation regarding gifted and talented children.*

PUST 3 also mentioned that there are very few specialised teachers in the entire region. These specialists work alongside ordinary teachers in the identification of gifted and talented children in the region but there is a huge shortage. He suggested that regular training should be provided for ordinary teachers with the aim of making them specialists.

A father of a gifted and talented student, PT 1, also noted that the lack of specialised teachers affects the identification of gifted and talented students. In his view, "*the greater the number of specialised teachers in the region, the greater the chances of talented students' discovery*". PT 1, who is himself an educationist, further suggested that there is an urgent need for those in charge of the education system to put in place measures to ensure that there are specialised teachers in the region, since the selected site is one of the regions in Saudi Arabia where generally there are only a small number of specialised teachers. PUST 6, a teacher of gifted and talented children, also noted that "*a key challenge in my view is the lack of specialists … we are in need of specialist teachers …".* He noted further that the lack of specialised teachers in the area of gifted and talented children is a huge problem, which the MoE should deal with as soon as possible. These calls for specialists were supported by PM 2, who noted that "*Teachers need more professional training to help them to become specialists*." He added that until this is done, the Saudi education system will not be really effective in the quest to develop children considered as gifted and talented. PM 6 also mentioned that "*Qualified specialised teachers graduating from colleges must be appointed in these jobs so that they become interested and productive in this field*." Another policy maker, PM 5, confirmed that the lack of specialist teachers in gifted classrooms and even at the Centre,

leads to parents' reluctance to allow their children to go through the gifted and talented project. In his words:

> *This discourages many families from sending their children to the Centre because parents think that the project will not succeed if there is a lack of specialised teachers to support the children.*

PM 3 confirmed that the lack of qualified teachers is a major challenge. He cited an instance of a school with over 400 students, but only one teacher to nominate children for the gifted and talented project and follow them up.

> *I work in a school with more than 400 students. There is only one teacher for the gifted and talented students who is not even a specialist … this is not enough.*

The challenge of lack of specialised teachers was therefore identified across all categories of respondents. This challenge impacts on both the number of students identified and the quality of the project. For instance, as a result of the lack of qualified teachers, schools might reduce the intake of students in order to be able to follow up and care for the identified gifted and talented students. Some teachers may have serious concerns for students whom they regard as gifted and talented. The lack of specialised teachers also results in the lack of use of suitable identification methods (discussed in a later section). Finally, the lack of specialised teachers leads to a fear that teachers will be overburdened without support.

5.3.2.1.3. Pressure on Teachers

Respondents also identified pressure on teachers as another challenge in the identification of gifted and talented students. This challenge, they suggested, comes as a result of the workload on teachers due to the multitude of subjects in the compulsory curriculum, but goes beyond that to include time constraint and teachers' busy schedules in schools. This view was expressed clearly by PUST 3, a teacher of gifted and talented children, who noted that "*as a result of the number of students we have, it is difficult for teachers to carry out observation or an evaluation process*."

This view was corroborated by PUST 2, a teacher of gifted and talented children. He stressed that the level of pressure on teachers who work with gifted and talented children is directly linked to the two challenges discussed above. In his words, "*the pressure on teachers is as a result of the lack of qualified teachers and the lack of specialised teachers*." He contended

that if the region had a sufficient number of teachers and/or qualified teachers, the gifted and talented project would be more effective.

PM 1 also explained that the pressure on teachers could be as a result of the large size of the region and the fact that the region only has one centre dedicated to the gifted and talented project. He admitted that "*this places enormous pressure on teachers to meet the huge demand and requirement of the centre's services* …". PM 1 further suggested that the pressure on teachers was a result of the workload and the time constraint associated with the project. PM 4 made the following contribution:

> *Teachers feel the pressure because of the large number of students in the region. There are huge numbers of students in our classrooms. I mean in both public and private schools*.

Finally, PM 3 said that *"... the large number of students does not allow the teacher to work effectively and efficiently ...*". Parents, as a category of respondents, did not identify this as a challenge.

5.3.2.1.4. Types of School

The type of school was also identified as a challenge to the identification of gifted and talented children in the selected region. Here, respondents made a distinction between what they called older schools (public schools) and charter schools (private schools), although there was difference of opinion as to which type was most effective in identifying gifted and talented children. It was suggested by some participants that public schools may be better at identifying gifted and talented students compared to private schools because the former are established to meet certain social responsibilities and the latter for profit. For example, PRST 2, a private school teacher, acknowledged,

> *As private schools our first goal is to make profit. We focus best on regular classes in order to win the satisfaction of everyone. This does not mean that we do not care about the gifted and talented students at all, but the more students we target, the more money we make.*

Therefore, for PRST 2 and a number of other interviewees who supported this view, the basic difference in orientation between public and private schools is a challenge to the identification of gifted and talented students in the selected region. PUST 1, a teacher of the gifted and talented students, also noted that the difference lies in what these schools consider

as priority. He argued that the identification of gifted and talented children in schools is seen as a government project which is mandatory in public schools but optional in private schools. Students therefore do not have the same opportunity to be identified under the gifted and talented project, depending on which school a child attends.

PM 2 and PUST 9 argued, however, that, despite the commitment of public schools to the identification of gifted and talented children, they were less able to achieve this than private schools, because they do not have the appropriate environment and equipment. In the words of PM 2, ''*The challenge is that public schools are not really ready for educating gifted and talented children. They are not well equipped*''. This would make it difficult to provide a variety of activities that would allow children to display their talents. He added that the number of students in public schools is also always more than the actual capacity, which hinders the identification of gifted and talented students because of the pressure that teachers are compelled to work under.

PM 5 perceived a different kind of challenge in public schools. He suggested that "*the scale of the challenge depends on type of school because of the environment*." In his view, productivity is low in public schools compared to private schools. PM 6 mentioned that "*the style of administration in public and private schools also helps to create a suitable environment for students, besides the physical facilities.*" He advised that, "*in order to bridge the gap between public and private schools, there should be uniformity in the style of administration*." He thought this may help in the identification of gifted and talented students.

On the part of parents, both PT 1 and PT 2 agreed that the type of school matters in the identification of gifted and talented children and thought that private schools have the advantage in this respect. For instance, PT 2 suggested that "*because private schools have a smaller number of students in the classroom, the teachers have time to know each student and they have a good relationship. This helps in the discovery of talent*." PT 1 expressed a similar sentiment but added that public schools seem to be only interested in following the status quo, which is not helping in the identification of gifted and talented children.

5.3.2.2 Resources

A further sub-category of responses related to challenges existing within the education system concerned resources, both in schools and across the education system in the region as a whole. Challenges identified included inadequate infrastructure (including insufficient

Centres for the Gifted and Talented), lack of equipment and resources in schools, which limited the educational opportunities available to children, insufficient budgetary allocations and unsatisfactory teacher/student ratios. Participants thought that such factors limited the opportunities for children to develop their abilities (which in turn would reduce the chances of their being identified as gifted and talented) and put a strain on the identification system and process.

5.3.2.2.1. The lack of Facilities

Respondents identified the lack of facilities as another challenge in the identification of gifted and talented children in the selected region. The lack of facilities includes inadequate schools and centres and the lack of computers and other teaching aids. For instance, the majority of respondents noted that the absence of the appropriate facilities in schools and centres creates an environment in which students experience boredom and this might stifle the creativity of students in general. PRST 1, a teacher of gifted and talented children, observed that:

> *At the beginning [of the project] there was considerable interest and eagerness, but unfortunately the support did not continue. Some have abandoned the project and the will of others has weakened. There are not enough facilities in most schools.*

Similar frustrations about the lack of facilities were expressed by PUST 9, a teacher of gifted and talented children in a public school. He mentioned that:

> *… learning resources play a prominent role in the discovery of gifted and talented students. Without facilities such as laboratories and libraries, it may be hard for the teacher to recognise the gifted and talented student.*

PRST 1 identified deficiency and insufficiency in the infrastructure of schools, meaning that some schools are not well equipped with modern facilities to enable such schools to facilitate the identification of gifted and talented students. PUST 8 also noted that there are obvious challenges in relation to resource availability in schools. He commented that "*the MoE does not provide the supplies and educational materials necessary for teachers to do their work properly*". PM 3 also admitted that: "*there are low numbers of office and other facilities that are supposed to help in the identification of gifted and talented students*." He added that the lack of resources also included an inadequate number of supervisors to assist in the identification of gifted and talented students. PM 3, however, insisted that they were

managing well with what they had, although the workload and pressure could be overwhelming.

PM 2 also mentioned that the lack of facilities, particularly a test centre, deprives a vast portion of the society from benefiting from the project. According to him, students are spread over the vast area of the province of the selected site. In his view, this affects the discovery of students who may be gifted and talented. Finally, both PT 1 and PT 2 corroborated the views of teachers and policy makers.

5.3.2.2.2. Budget

An issue closely linked to lack of facilities was lack of financial support. Although Saudi Arabia is seen as a rich country, respondents identified that one of the challenges in the identification of gifted and talented children is that schools and teachers lack financial support to enable them to do their work well. PUST 1, a teacher of gifted and talented students, for instance, observed that because the needs of those teachers are not met, they are unable to carry out their duties effectively. This view was supported by the majority of other respondents. PM 3 argued that the government needs to make the gifted and talented children's project a priority in its annual budget. In his view, this would help in taking care of essentials such as educational centres and well paid teachers, which will, in turn, help in the identification of gifted and talented students, as it would attract more capable teachers and enable a wider range of educational activities.

According to PRST 2, the lack of finances is an outstanding challenge to the gifted and talented programme. He suggested that the Saudi government, through the DoE, needs to increase the budget in order to properly finance the project. On the part of parents, they identified that the operation on a financial deficit model means that there are no incentives for students and their families to participate in the project. In the words of PT 1, "*There is no means of transport to transfer children to and from the Centre; and there are not any incentives* …". PT 1 further suggested that the lack of incentives will inevitably make some parents stop their children from participating in the gifted and talented project because, by sending children to the Centre to take part in activities through which their giftedness might be identified or confirmed, parents will be incurring additional cost. He thought that for the project to be more effective, the government needs to inject a lot more money into it.

5.3.2.2.3. Teacher/Student Ratios

An impact of inadequate resources and funding was poor teacher-student ratios. Throughout schools in the KSA, there have always been huge numbers of students in classes and too few teachers. Respondents therefore stressed that there are always huge demands on teachers as a result of the large number of students. It was therefore the view of respondents that if a maximum number of students per class was set, as a matter of policy, this would help solve this challenge. PUST 5, a teacher of gifted and talented children, suggested that ''*the MoE needs to come out with clear guidelines on the appropriate teacher/student ratio for all schools in this region*''. Not only was it believed that the excessive burden on teachers hinders the identification of gifted children, but it was also suggested that the situation was even worse in private schools. According to PRST 2, "*One of the important challenges, in my opinion, is the teacher/student ratio in private schools. We are under serious pressure here, my brother*." He argued further that the challenge of teacher/student ratio in schools in the identification of gifted and talented students is related to the good reputation of the school:

> *Good schools, both private and public, always have pressure put on them by parents who insist that their children deserve a chance to attend such schools. Parents do not realise the pressure this causes, particularly when the student numbers per class exceed 30.*

According to PM 1, ''*Of course, the large number of students in classes is a big challenge because it does not allow the teacher to work efficiently"*. He noted that this situation is made worse because teachers do not earn any extra income or incentives, which causes them to become demoralised and less to exert the extra effort needed to identify gifted and talented children. Parents did not comment on this issue.

5.3.2.3 Administrative and Regulatory Issues

While the previous sub-sections concerned issues related to conditions in the schools, a further set of codes concerned the role of those responsible for overseeing the education system and specifically, the Gifted and Talented project. Interviewees expressed a perception that deficiencies in the administrative and regulatory functions contributed to ineffective implementation of the project and failure to identify and address prevailing challenges. The codes referred to the role of the Department of Education and to supervision in schools.

5.3.2.3.1. Role of the DoE

The role played by the DoE in the identification of gifted and talented children was identified as a challenge. Respondents argued that the DoE currently has in place a weak evaluation system for measuring the progress of students who have been nominated for the gifted and talented project. The consensus on this was that the DoE has over the years attempted to address the challenges in the gifted and talented project but has failed because of the weak evaluation system in place. Currently, the DoE does its evaluation using a top-down approach, where officers in the DoE routinely visit Centres to carry out such evaluations. However, respondents saw this type of evaluation as weak and called for a change in order to make it more useful and effective in the identification of gifted and talented children. PRST 2, for example, suggested that

> *We select students to be tested [at the Centre] through the distribution of forms through schools but my point of view on this approach is that it doesn't work well in the identification of talented students. The DoE doesn't have any other system of identification anyway …*

According to PT 1, "… *I do not know the mechanism and the way the DoE identifies our children. It is as if they were on another planet. They do not communicate with parents*." PUST 2 also observed that the support of the DoE for the project has declined over the years. In his view, this had a considerable impact on the enthusiasm of students and families. "*Would you be enthusiastic about such a project if you were a student or parent of a student participating in the project?*" PUST 2 questioned.

5.3.2.3.2. Supervision of Schools

Respondents also identified the supervision of schools as another challenge in the identification of the gifted and talented children in school. Here, respondents were categorical that inefficient supervision leads to errors in the identification process. According to PM 1, "*The lack of supervision is a result of the fact that we do not have enough supervisors.*" He explained further that within each school, there is a Gifted Co-ordinator who is actually an ordinary teacher who liaises with the Centre. He also disclosed that sometimes these co-ordinators, who are given supervisory responsibility, are nominated by their own schools and do not have specific interest in or training for the role. Respondents therefore saw this as a challenge in the identification of gifted and talented children because the supervisors generally do not know any better than the ordinary teacher.

PRST 2 also suggested that "*Unfortunately, there is no strict control by the Department of Education. There is simply no strong supervision*." All public school teachers agreed that the lack of supervision is another key challenge. Again, parents made no explicit comments about this theme.

5.3.2.4 Motivation

The various weaknesses of policy and systemic issues, discussed above, apparently had a pervasive negative effect on motivation towards the Gifted and Talented project, among teachers, parents and children. Respondents linked motivation to teachers' lack of interest in and identification of gifted and talented children and insufficient incentives for teachers. For instance, PUST 2, a teacher of gifted and talented children, commented that over the years, because support from the MoE to some extent had declined, the level of enthusiasm on the part of teachers and family had weakened. His comment was supported by PUST 9, another teacher of gifted and talented children, who reiterated the need for teachers to be motivated. In his words, "*The lack of encouragement and the lack of incentives is a challenge at both the school and district level*." PM 2 also admitted that teachers in particular are not motivated enough to support the gifted and talented project to the best of their ability. He proposed that these teachers should "… *be exempted from all the extra work such as being on duty, assignment tasks and all the other school activities and should be granted an increase in their salaries*."

He further called for the need to motivate students as well, through the provision of rewards and scholarships. He further noted that "*I hope that the support includes the gifted and talented students themselves. I mean, let's give them simple pens, books, candy and sometimes certificates*." PM 2's suggestion raises a question about the impact of children's motivation on the effectiveness of identifying if they are gifted and talented. This will be explored further in the discussion chapter.

PM 3 supported the call for teachers to be motivated. He noted that "*Teachers will be able to work more efficiently with extra income or incentives*." There is therefore the need for teachers and students to be motivated in order to overcome this challenge.

According to PM 5, "*the lack of motivation has led to the reluctance of many families to send their children to the Centre*." He maintained that families are fearful that the drive to identify and nurture gifted and talented children might be useless and time wasting. Some children are also not motivated to participate in the project because of the lack of support after they

are nominated onto the gifted and talented project. In order to address this challenge, PM 5 suggested the need to create a suitable environment for the students and teachers on the project.

The view of PT 1 was that nobody is motivated towards the gifted and talented project. He emphasised that "*One of the challenges as I see it is the lack of motivation in teachers, students and parents.*" PRST 3, a deputy head teacher, blamed this situation on the DoE. According to him, there is a general lack of interest in the gifted and talented project throughout the education system in the Kingdom of Saudi Arabia because of the manner in which the DoE handles the project. In his words, "*The problem starts from the education departments through schools to families*." He concluded that nobody seems to be interested in the project, because they do not feel encouraged enough to participate.

5.3.2.5 Section Summary

This section addressed education system-related issues, which participants thought posed challenges to the identification of gifted and talented children. Interviewees complained that leaving the criteria applied in the identification process, to teachers' discretion was problematic because of the shortage of teachers with the necessary knowledge and experience. Moreover, there were concerns that teachers' workloads, lack of material and financial resources and poor teacher/student ratios restricted the educational activities teachers could provide and the attention they could pay individual children, which posed challenges to the identification of gifts and talents. These issues, together with the administrative and regulatory weaknesses, participants suggested, contributed to a lack of motivation towards the gifted and talented project, which posed a further challenge to its implementation.

5.3.3 Perspectives on Pedagogy

This section of the chapter explores respondents' views on teaching beliefs and practices, as well as how the identification actually happens and to what extent this poses a challenge in identifying gifted and talented children in the selected region. The broader codes explored in this section include the selection criteria of gifted and talented children, assessment, the school curriculum for gifted education and research (past and present).

5.3.3.1 Selection Criteria

Respondents were emphatic in their responses that one major difficulty in identifying gifted and talented students lies in the selection criteria. Specifically, they mentioned the

nomination process and the role of teachers in the selection process as the main challenges associated to the selection criteria of gifted and talented children in the region. These two sub-themes are further explored below.

5.3.3.1.1. Nomination of Gifted and Talented Children

Nomination of gifted and talented children was identified as a challenge in the identification of gifted and talented children in the selected region for two reasons. Firstly, it was claimed that the existing nomination process is random and non-objective. Secondly, it was identified that the nomination process lacks a standardised unit of measuring the talent of gifted and talented children. These factors made the nomination process a major pedagogical challenge. For instance, PUST 2 stated that "*Nomination is a big challenge because students are identified or favoured on a random and non-objective basis*." The nomination process is a challenge because there is no standardised method of doing it. This means that some students who are gifted and talented may not be nominated and those who are not may be nominated. It also creates an obstacle when attempting to identify potential talent within the classroom because if the identification process is not scientific and it is not incorporated into teacher training programmes, teachers' judgements can be arbitrary. Participants suggested that the nomination process may also lack consistency because the methods used by individual teachers may be inaccurate due to lack of knowledge, coupled with the fact that teachers may not be fair or objective in their identification procedures. Another respondent, PUST 5, was concerned that some of these nomination procedures may not have been updated for a long time and may not meet the current needs of the project and/or the students involved. From a parent's perspective, PT 1 stated that "*The biggest challenge for me is the lack of measurement that can be used in determining my son's talent*." He admitted that he did not know how his son had been chosen. His view was corroborated by PT 2, who also noted that he, like many other parents, did not know how his son was nominated into the gifted and talented project. In his words, ''*The process is random and no-one can tell what standard is used in selecting these children''*. PT 2 expressed his fear that parents would not be able to challenge the schools or the MoE in future if they decided to drop their children from the project, because of the lack of clear, consistent standards.

In the opinion of PM 2, the Centre had a problem with both parents and schools because it appears nobody really understood the nomination procedure. He added that this state of confusion had prevailed since the birth of the project, but there were no straightforward answers. PMs 2 further admitted that because of the absence of standardised criteria, different

schools had adopted different methods of identifying gifted and talented students, some of which were completely flawed. For the gifted and talented projected to stand a chance of success in the future, the selection criteria, in his view, need to be standardised. Finally, the views of private school teachers were that the challenge of the nomination criteria was evident in the number of students children, nominated by teachers, who were then rejected by the DoE or the Gifted and Talented Centre. As PRST2 explained

> *This actually happens every year, my brother. Anytime we nominate a number of students who we consider as gifted and talented, only a very few of them are accepted at the end of the day by the Department of Education or the Gifted and Talented Centre.*

He added that on the last occasion, that only three students out of twenty students nominated were selected.

5.3.3.1.2. Role of Teachers

The role of teachers was another challenge identified in relation to the selection of gifted and talented children in the selected region. According to PUST 6, "*One of the challenges that faces the identification of gifted and talented students is the role teachers play and the methods they use in dealing with students in the classroom*." He explained further that most teachers tended unintentionally to encourage ways of identification that did not promote creativity in the classroom. He argued the need for modern methods that would help in the identification of the gifted and talented students in the classroom. Another public school teacher, PUST 2, mentioned that it is possible that a large number of teachers in the region lack the awareness of what constitutes a gifted and talented student it and how to identify such students. In his words,

> *I think a large number of teachers are ignorant of the traits of gifted and talented students and may not even consider the gifted and talented students in their classes for nomination.*

Yet these teachers are expected to play a significant role in the identification process. This remains a challenge in the region. A third public school teacher, PUST1, summed up the views of this category of respondents when he noted that

> *Teachers' inaccurate method of talent detection, when combined with the fact that teachers may not be fair or objective in their identification, is a significant obstacle when attempting to discover the gifted and talented in this region.*

So for public school teachers, although the role of teachers in the identification of gifted and talented students is crucial, it remains a challenge if teachers lack the competence to do so.

The views of private school teachers were similar. According to PRST 2:

> *There are shortcomings in the public and private schools when it comes to the role of teachers in the identification of gifted and talented students. … this is because some teachers are incompetent, and others are not qualified or well trained. How then do they expect us to test and identify the gifted and talented students? This is absolutely incredible*.

The above suggests that the challenge teachers face is as a result of the lack of training. The views of policy makers were that it was difficult for teachers to play any significant role in the identification of gifted and talented students because of the multitude of problems they face. PM 2, for instance, identified the lack of an appropriate working environment and lack of training as key contributors to the challenges teachers face in their role. He called for the intervention of the MoE to find lasting solutions to this challenge. The position of parents was that they believed teachers care and work hard but need to show more dedication. According to PT 1, "*I do not think that teachers do not care about our children and the gifted and talented project. But we (parents) are asking them (teachers) for more care and effort*." He thought teachers must work hard to develop the skills of the students in order for the gifted and talented project to succeed.

5.3.3.2 Assessment

The assessment methods used in the identification of the gifted and talented were considered yet another challenge. The existing assessment method identified by respondents was a mental ability test, which focused on the children's numeracy and literacy levels. No such test is clearly defined in government documents. However, one participant, a policy maker, claimed ''*a student is given 150 questions and if he answers 120 of them, he is considered talented*''. The majority of respondents considered this assessment method as too traditional and inappropriate and of doubtful validity. PM 1 confirmed that:

Unfortunately, the MoE currently relies on a simple assessment of perceived mental capacity which, in itself, is quite old, inaccurate and is not up-to-date. The current method uses small standardised models to measure.

The majority of respondents agreed that the current assessment method is dated and should be changed. For instance, PRST 1 highlighted the insufficiency of the current assessment method used in schools to identify gifted and talented students. In his words, *"... school reliance on a traditional method of assessing students in my point of view is not sufficient*." He advised that the assessment should be revised so that everyone understands the procedure well, because in current thinking, assessment should not rely on a single type of assessment method. PRST 3 also suggested that the current assessment method focuses on academic achievement but ignores other qualities and characteristics, such as personal and behavioural. In his opinion, this is an old approach to assessing students that needs to be revised.

The contribution of public school teachers was captured in the comments of PUST 1. He suggested that the 'achievement test', which is currently adopted and used throughout schools in the selected region, might be useful in identifying superior academic performance but it does not necessarily capture other qualities that make a student gifted or talented. Another PUST contributed that the challenge that the current assessment method poses is that "*it does not encourage teachers to take into consideration the other qualities of the gifted and talented student, for example, social attributes, self-confidence, independence, freedom and curiosity*". He concluded that because the focus of the current assessment method is solely on academic achievement, some teachers may fail to recognise some students as gifted and talented but view them as disruptive and may either ignore their needs or even punish them. This, he thought would, undoubtedly affect the psychology of such students. It is worth noting that the perception expressed here contradicts other reports identifying that more than one method of assessment is used. This issue will be discussed in Chapter Six, Section 6.3.

5.3.3.3 Curriculum

The lack of breadth and depth in curriculum development to meet the needs of more able children was also identified by respondents as a challenge in the identification of the gifted and talented in the selected region. According to PUST 1, "*the curriculum tends to lack variation and teachers are conditioned to maintain the institution of the same teaching pattern in every class*." He noted that the lack of variation in the curriculum does not in any way help children to develop their abilities and learning preferences, so gifted and talented

students may not be recognized. PM2 also agreed that the existing curricula that are provided for gifted and talented children in schools are not satisfactory. He explained that the curricula do not offer students variety or choice, but allow teachers a large degree of control. In his view, this is not the ideal.

5.3.3.4 Research

Inadequate research on the identification of gifted and talented students was perceived as another challenge in the identification of gifted and talented children in the selected region. According to PM 2, "*There is currently a lack of research and studies in the field of gifted and talented students in the region*." As a result, the Saudi government relies on research from abroad, which may not neatly translate to the situation of the Saudi people.

PRSTs as a category noted that research on the identification of gifted and talented students is currently lacking in both public and private schools. In the words of PRST 3, "*We simply do not have the latest research in this area in this country*." He called for the government to establish research centres to conduct research in the area of gifted and talented students and inform teachers of the research findings. The PUST's category also noted such a lack of research and suggested this might be mainly due to the fact that, "*Our teachers primarily expect only to conduct lessons and monitor their students.*" PUST 1 personally suggested that even the MoE is poor in conducting research, including market research to establish the readiness or otherwise of the public for implementing the gifted and talented project. He concluded that Saudi Arabia may not yet be ready to implement its policy on gifted and talented students.

Both parents interviewed also suggested that research is important in the identification of gifted and talented students. According to PT 2,

> *It is unbelievable what the MoE thinks they can achieve [the project aims] without research into this area. I think that most of the people at the ministry are inexperienced in research. We therefore need to attract people who are competent researchers to take up this challenge*.

5.3.3.5 Section Summary

This section explored respondents' perspectives on the pedagogy and related challenges in the identification of gifted and talented students in the selected region. The main themes explored include the nomination criteria, the role of teachers in the identification process,

assessment, the curriculum and lack of research. These issues individually and collectively challenge the identification of gifted and talented students in the selected region of the KSA. The views of all four categories of respondents reveal significant points of convergence. The next section focuses on the perspectives of respondents on the socio-cultural challenges in the identification of gifted and talented children in the selected region.

5.3.4 Perspectives on Socio-Cultural Issues

This section reports respondents' perspectives on the social and cultural issues related to the identification of gifted and talented children in the selected region. Specifically, it focuses on the role of the family (including family size, education, materialism and lack of involvement in children's education), social conservatism, science versus culture and religion.

5.3.4.1 Family

Participants believed that the family plays a huge role in the social, moral and educational upbringing of children but that in the Saudi context, the large number of children in families, families' low level of education, materialism and lack of communication between parents and teachers posed challenges in the identification of gifted and talented children. PUST 9, a public school teacher of gifted and talented children, thought these factors were related. He commented,

> *In my point of view uneducated families have a larger number of children and find it difficult getting their children nominated to the gifted and talented programme.*

5.3.4.1.1. Number of Children

Commenting specifically on the issue of family size, PRST 2, who was Egyptian, thought that the large number of children in Saudi families imposed a financial strain that made it difficult for them to encourage their children's education. He observed

> *... the number of children per family here on average is six, but there are many families who have up to ten children. Families like this do not care about the gifted and talented project.*

PRST2 suggested that families with fewer children have more time for their children's education in general and for the gifted and talented project in particular.

5.3.4.1.2. Low Level of Education

This challenge includes parents' illiteracy or low level of education and consequent inability to support their children's education and lack of awareness of the concepts of giftedness and talent. In this regard, PUST 9 commented that "*family plays a large role in the impact on the children morally, socially, educationally and financially*." He thought that, the more coherent and informed the family's role towards the children, the greater is the probability of identification of outstanding children and particularly of gaining opportunities for the gifted and talented. In his view, uneducated families are less able to provide academic models for their children to follow, which may be a major cause of delay in the manifestation of a child's talent.

Expressing similar concerns, PM 1 noted that "*a lot of these parents themselves lack adequate education and are unaware of the gifted and talented programme*." He explained further that because most parents have little education themselves, they do not value education or recognise giftedness. Some parents even force their children to leave education for activities such as herding sheep and camels or performing household tasks. The educational level of the parents is, therefore, a crucial contributing factor to the success or failure of the gifted and talented programme but unfortunately many parents cannot read or write.

Both private and public school teachers also commented that illiteracy affects the identification of gifted and talented children. According to PUST 1:

> *Parents normally refuse to send their children to the Centre because they are illiterate themselves and do not understand the importance of the Centre. Parents also do not seem to understand the role and significance of the Centre.*

PRST 3 also commented that:

> *Most parents are uneducated and this is no doubt a hindrance to the discovery of gifted and talented students. The challenge lies in the fact that you need to first educate the parents to accept the project first, before any progress can be made with the children.*

The parents interviewed in this study were themselves highly educated, but they acknowledged that many parents do not benefit from these advantages and do not see the

value of the gifted and talented project or co-operate with it by encouraging their children's abilities.

5.3.4.1.3. Materialism

Respondents also identified that parents tend to invest more in material wealth and consumerism rather than in the education of their children. They referred to this challenge as materialism, which they said affects the identification of gifted and talented children. For instance, PUST 3, a teacher of gifted and talented children, suggested that "*the community unfortunately is affected by materialism. This has led us to disregard aspects of knowledge*." He explained that parents do not encourage their children who have the ability to pursue their education seriously. Instead, parents encourage their children to take interest in their family business and helping them in their daily work. This might be as the result of the fact that education is a long term investment, but engaging in family businesses yields immediate returns.

Parents' preference to invest in matters other than encouraging their children's education was also asserted by a supervisor in the Centre:

> *Families do not care about the gifted and talented project because they think it is a luxury. They prefer to spend a lot of money buying material things for themselves and their children rather than spending on a gifted and talented child. The truth is that parents do not think it will be a good return for their money – PM 5.*

According to PUST 8, "*because of materialism, families neglect their children's quest for education in general and this affects the identification of gifted and talented children as well*."

5.3.4.1.4. Relationship Between Home and School

Whether because of lack of education or focus on material interests, teachers and policy makers perceived a lack of involvement in their children's education among many parents. They complained of parents' lack of co-operation with the school. This could be a challenge to the identification of gifted and talented children, if parents did not provide information about their children, follow up their progress and encourage their children to achieve their potential. However, as will be seen, the two parents interviewed had a different perspective on this issue.

A public school teacher, PUST 1, commented on parents' lack of interest in their children's education and recalled an example:

> *There is one experience I had with one father I would like to relate. One day we called the parent to the school to inform him about the delinquency of his son. To our surprise, we discovered that the father did not know the level of his son in the school.*

Several teachers agreed that a major challenge facing the existing educational policy in the identification of gifted and talented children is the lack of a close relationship between schools and the family. Respondents therefore thought that the lack of co-operation between teachers and families of students affects the success of the gifted and talented children's programme. According to PUST 9, a teacher of gifted and talented children:

> *I think the spirit of compassion and co-operation between the school and the home is missing in the project. This relationship should be encouraged because it helps to create a positive work environment and there is an opportunity to exchange views, suggestions, creative ideas and creativity*.

One outcome of the alleged lack of co-operation between home and school was that often parents refused to allow their children to be tested for giftedness, or to attend enrichment activities at the Centre for Gifted and Talented, which plays a major role in the identification and confirmation of children's gifts and talents. As PUST 5 claimed, "*As a result [of lack of co-operation with schools and the Centre] you rarely find parents encouraging their children to join the project*." However, other contributions suggest that this reluctance is not solely due to lack of co-operation, but it is related to specific cultural attitudes, which are addressed in later sub-sections.

It is also noteworthy that the parents interviewed offered a different view from teachers, on the "non co-operation" issue. They both expressed that they were interested in their children's education, but felt they were being ignored by teachers and supervisors. PT 1, a father of a gifted and talented child, confirmed families' lack of awareness and the gap in communication between teachers and parents. He pointed out that "*they do not communicate with me, despite the fact that I have a daughter who is considered as gifted and talented*." PT 2 similarly expressed his frustration, particularly with the Centre, claiming that "*the Centre*

doesn't seem to care about the views of parents – They think they know it all and we are just observers."

Commenting on this issue, PM 1 admitted that communication between parents was inadequate and argued that, because parents lack awareness and understanding of the gifted and talented project, it is important for teachers to increase their efforts to bridge the communication gap and increase awareness of the project.

5.3.4.2 Social Conservatism

The Saudi society is characterised by attributes such as its closure to outside influences (Al-Lawati & Hunsaker, 2007). This is referred to as social conservatism. Social conservatism was also identified by respondents as a challenge in the identification of gifted and talented children in the selected region. Associated to the issue of social conservatism are, firstly, few parents acknowledge the talent in their children as a result of their conservative values and secondly, parents are opposed to the concept of gifted and talented because they see it as an outside influence on their culture. As an example of the former view, PM 1 pointed out that "*parents often refuse to send their children to the Centre for fear of envy*." He explained that because of the conservative nature of the Saudi society, most families still have the belief that a child who is gifted and talented must be hidden from the public eye in order to protect such a child from public envy. There is a superstitious fear that flaunting success or good fortune may invite the "evil eye" and bring misfortune on the family.

There was also a suggestion that parents are opposed to the concept of gifted and talented children as a result of the fact that they see it as an outside influence on their culture. According to PM 1, "*There is a difficulty in reconciling the concept of gifted and talented with Saudi culture and therefore the society as a result of the fact that the people see it as something alien to their culture*."

PM 4, a teacher working at the Centre for Gifted and Talented Children, also observed that:

> *Indeed, some parents fear the effects of our activities in the eyes of the public. Society rejects all talent inconsistent with the values, religion and tradition of tribal customs or traditions inherited from generation to generation.*

PUST 5, a teacher of gifted and talented children, also stated that:

> *One of the major challenges is that we have a conservative society, like others in the region. We are committed to the community customs and religion, morality and traditions, so everything that is contrary to our religion, our values, our attitudes and constants, society, rejects absolutely. There are skills which are directly denied, like open arts, such as music, and a lot of sports and professions, because they are seen as incompatible with our habits or with our religion.*

PRST 2 particularly drew attention to the impact of stereotyped gender roles, which impedes the development and discovery of girls' talents. He explained:

> *One of the challenges is that girls or women are expected to work a lot inside their homes and men spend a lot of time outside the home. This affects the identification of gifted and talented children because the girls are mostly with their uneducated mothers. How are they to be identified, even if they are gifted and talented?*

PT 1 also admitted that "*frankly, it appears our society has not fully accepted the concept of gifted and talented children because of who we are as a society. We do not celebrate such children in this society.*"

5.3.4.3 Science versus Culture

Respondents identified that some scientific methods of identifying gifted and talented children are seen to conflict with Saudi culture, which poses as a challenge in their identification. The view of PM 1 appeared to illustrate this point. According to him "… *at times our desire to discover talent can conflict with the cherished values of the society which are difficult issues to reconcile*." The majority of respondents identified that the culture of not wanting one's child/children to be known or identified as outstanding for fear of societal envy as one particular aspect of the Saudi culture that conflicts with the scientific way of doing things. There also seems to be a culture of fear towards the effects of science and technology on children. Hence, parents often refuse to send their children to the Centre, for fear that they will be exposed to activities and ideas that the parents consider unsuitable.

PRST 2 commented that, although the Saudi government is doing its best through sponsorship of students abroad to learn from the Western countries, there is still a problem of how much influence is acceptable. According to him,

> *My personal experience is that we are facing challenges because the community/society thinks we should have limitations on what children are allowed*

> *to do and not to do. Our culture does not accept everything that is scientifically proven but we as a people are more guided by our culture, not science. This is where science conflicts with the culture.*

PRST 2, however, thought that there was hope for change because some communities are seeking to be free from the conservative culture, although "*it is going to be difficult*", he added.

PUST 2 also mentioned that "*We are closed to the benefits of science and certain developments from other nations because our society is not open minded*." PT 1 and 2 also thought that the sciences are not given attention in Saudi schools, colleges and universities. The result, according to PT 1 is, "*As a society this affects our identification of gifted and talented children from the beginning*." Respondents felt that there is a clash between Saudi culture and science, but that the majority of the population prefer to follow the culture instead of science.

5.3.4.4 Religion

Respondents suggested that Islam is a challenge in the identification of gifted and talented children because of its impact on teaching methods. The general opinion was that in Islamic teaching, students are encouraged to memorise verses from the Holy Quran rather than being innovative, critical or creative. The emphasis on memorising, which began in Quranic schools, influenced pedagogy in general education also, and this was considered a challenge in the identification of gifted and talented children in the region.

Another way in which religion posed a challenge to the identification of gifted and talented children, according to some participants, was that people's understanding of religion led to the rejection of ideas and practices perceived as incompatible with Islam or "forbidden". For instance, PUST8, a teacher of gifted and talented children, explained:

> *Religion (Islam) in Saudi Arabia plays the most prominent role in the formation of human tendencies, inclinations and identity. The religion governs everything; any activity or work. If anything clashes with Islam, it is rejected completely, except in some individual cases. I think some people consider the identification of gifted and talented as one of the things that clashes with Islam.*

PM 2 also mentioned that "*Religion is a challenge because we do not agree with everything that comes from science if it does not comply with the teachings of the Quran*." He was,

however, optimistic that with sufficient time and honesty in administration, society would reach a point where ideas considered foreign could be tolerated. According to PRST 3, "*Saudi Arabia is a devoted religious society which tends to follow inherited ideals more than anything innovative*." Parents also agreed that religion affects the identification of gifted and talented children in the KSA. According to PT 1:

> *Islamic religion plays a prominent role in shaping the identity of the community, inclinations, orientations, and serves as the identity of the community. We are a religious and conservative society which rejects the open thoughts of others if they do not have a precedence in Islam.*

Finally, PUST9 mentioned that:

> *There is negligence of our debt to talent as Islam is not incomparable with a great deal of useful scientific knowledge. However, legitimate prohibitions prevent some ideas or activities due to families being very conservative religiously. Talents considered inappropriate or not in line with the Islamic nature of Saudi Arabian culture are unacceptable to both family and state.*

5.3.4.5 Section Summary

This section has reported participants' views regarding social and cultural factors that pose challenges to the identification of gifted and talented children. Children's family background could be a challenge, because many families, due to factors such as family size, economic level and low education, do not have the will or resources to support their children's education and encourage their talents. Participants highlighted, also, the impact of social conservatism, mistrust of science and rigid perceptions of religious principles, which lead society to fear and reject new ideas and practices, including the idea of identifying and promoting giftedness and talent. This led some participants to question whether Saudi society was culturally ready for such a project.

5.4 Chapter Summary

This chapter has presented the findings from analysis of MoE documents related to the Gifted and Talented project, and 20 semi-structured interviews, conducted with public and private school teachers, policy makers and supervisors from the Centre for the Gifted and Talented, and two parents of children identified as gifted. The documents provided background information on Saudi policy related to the identification of gifted children, the institutional

structure involved, approved criteria for identification and teacher training for the project. They revealed an interest in identifying gifted and talented children, particularly in the area of science and technology, as a resource for national development. However, they also revealed a complex, bureaucratic, and confusing institutional system and inconsistent criteria for identification of gifted and talented children. Moreover, there were indications that general teachers, reassigned to serve the project, were not trained in identification of gifted and talented children. Nor was identification included in training packages for teachers of ‘‘gifted classes’’, although they are supposed to advise and liaise on identification procedure in their schools.

The interview data was presented under four main themes reflecting perspectives related to educational policy, system, pedagogy and socio-cultural factors. Regarding education policy, participants commented on the lack of a clear definition of giftedness and talent, and uncertainty as to the criteria to be applied in the identification process. Among systemic issues, they perceived challenges related to the number and expertise of teachers, inadequate resources and administrative weaknesses. They believed that such factors limited teachers' ability to play their role in identification and restricted the availability of opportunities for children to develop and manifest their talents. As a result, there were suggestions that teachers, parents and children lacked motivation towards the gifted and talented project.

In terms of pedagogy, participants thought that the limitations of the curriculum prevented children from achieving and demonstrating their potential. They also called into question the validity of the identification process, in terms of the lack of a standardised, objective system, reliance on academic tests focusing on literacy and numeracy skills at the expense of other skills and attributes, teachers' errors in nominating children who were later rejected by the gifted programme and lack of research on current thinking and practice in the area of giftedness and talent.

The last theme, socio-cultural factors, highlighted a range of interlinked factors related to family and societal attitudes. There were suggestions that parents were unable or unwilling to encourage their children's education and to co-operate with the gifted and talented project for a variety of reasons. These included the pressures of large family size, low levels of education, a preference to invest in the pursuit of material wealth and lack of effective communication and co-operation between home and school. As a result, many parents refused to allow children to be tested for giftedness and sometimes withdrew children from

school before they had a chance to reveal their potential. Such behaviour was linked to social conservatism, which made parents afraid to attract attention by having their children recognised as exceptional, rejection of some modern and scientific ideas and practices and interpretations of religion that led to members of society rejecting anything they viewed as incompatible with their religious beliefs. Such attitudes could influence their response to particular behaviours and traits in children, to the activities at schools and the Centre and to the notion of giftedness itself. As a result of such factors, some participants questioned whether Saudi Arabia is actually ready for the gifted and talented project.

In the next chapter, the findings from the three sources of data used in this research are discussed in the light of the Saudi context (Chapter 2) and of the theories and previous empirical findings reviewed in Chapter Three.

Chapter Six
Discussion

6.1. Introduction

In recent years, the Saudi government has been concerned to identify gifted and talented children in order to develop their potential to contribute to the country's development (Ministry of Education, 2004). However, Saudi educationalists have suggested that the project for identification and development of gifted and talented children faces a number of challenges related to policy, system, pedagogy and cultural factors (Alamer, 2010, 2014, 2015; Al-Garni, 2012, Al-Makkalid, 2012; see Chapter Three, Section 3.7). In this research, these factors were explored from the perspectives of Saudi teachers, policy makers and parents, predominantly through semi-structured interview, supported by analysis of relevant documents, and with context provided in the form of research notes. Following on from the presentation of the themes from the documents and interviews in Chapter Five, this chapter draws together the information from the three research methods, and discusses the identified themes in the light of previous theoretical literature and empirical findings in order to address in turn the research questions, which were:

- What are the challenges faced in the identification of gifted and talented boys in primary schools in the selected region, KSA?

This question is addressed through sub-questions, as follows:

- What are the policy challenges faced in the identification of gifted and talented boys?
- What are the pedagogical challenges faced in the identification of gifted and talented boys?
- What are the systematic challenges faced in the identification of gifted and talented boys?
- What are the cultural challenges faced in the identification of gifted and talented boys?

The research questions, following previous literature, explore four potential sets of factors posing challenges to the identification of gifted and talented children. Many of the challenges are interrelated. In reporting the interviewees' perceptions in Chapter Five, for example, it

was evident that policy and systemic issues are closely related, given the role of government policy in structuring the education system and governing all its aspects, from the preparation of teachers, to curricula and practices in the classroom. These reflect deeply ingrained traditions and attitudes that have their origins in culture and religion. The complex interactions among the challenges perceived in the identification of gifted and talented primary school children in the Saudi context are acknowledged in this chapter. However, in the interest of clarity, the discussion is divided into four main sections, corresponding to the research sub-questions - thus, the first addresses the perspectives on policy, the second in system challenges, the third explores challenges related to pedagogy, including the actual procedures used in the identification process, and the fourth discusses the impact of socio-cultural factors.

6.2 Perspectives on Saudi Educational Policy

The first of the research sub questions concerned participants' perspectives on policy-related challenges to the identification of gifted and talented children. As noted in Chapter Two, Section 2.6, the Saudi government has expressed interest in identifying gifted and talented children, ever since development planning in the Kingdom began in 1970 (Alshahrani and Alsadiq, 2014). Section 5.2 showed how the rationale for the government's interest and the various criteria approved for use in the identification of gifted and talented children are reflected in policy documents issued since the establishment of the current institutional structure for the gifted education system.

Despite the government commitment to the identification and development of gifted and talented children, the Saudi educational policy was identified as a challenge in the identification of gifted and talented children. On this theme, all respondents agreed that the existing educational policy is clearly interested in the gifted and talented children's programme. However, they also felt that the existing educational policy is inadequate in certain areas of its application and implementation. In particular, participants suggested that, because of the lack of a clear and specific definition of giftedness and talent, and of consistent criteria regarding their identification, teachers and parents alike felt confused about how gifted and talented children could be recognised.

Indeed, confusion, inconsistency and lack of clarity in definitions of giftedness and talent are a feature of literature and policy in this field, worldwide. As noted previously, Ambrose et al. (2012) have commented on the variations in the scope of the concept, while Heller (1993)

suggests that definitions depend on the purpose of identification. Global literature identifies a variety of purposes espoused at different times and places, including the former Soviet Union's nurturing of certain talents for success in global competition (Urban & Sekowski, 1993), and China's emphasis on the skills needed for economic development (Zha, 1993). In Saudi Arabia, the national project for the identification of gifted and talented children has been linked with socio-economic development and the Kingdom's integration into the world economy (Ministry of Education, 2004, 2005). However, the findings suggest a lack of a clear local concept of giftedness and talent, or a failure to communicate and apply a consistent understanding throughout policy and at all levels of the education system.

One problem that emerged very strongly in the findings in this respect was a conceptual and practical confusion throughout the system, on the distinction between the identification of gifted and talented children and the provision for children so identified. This was evident in both government documents and interview responses. This was revealed in later discussion of system issues (RQ2, discussed in Section 6.3) and pedagogy (RQ3, discussed in Section 6.4) when participants spoke of issues related to provision and teaching in gifted classes (where students had presumably already been identified as gifted) rather than in general classes.

As regards government documents, they supposedly relate to a project for "identification and welfare" of gifted and talented children (the words development, care and nurturing are also used, reflecting the inconsistencies in terminology and English translation noted by Alamer, 2014). However, with the exception of a few lines in key documents (Ministry of Education, 2004, 2006, 2013a, 2013b), discuss only provision. Moreover, the organisational chart (Ministry of Education, 2004) and institutional or individual responsibilities (Ministry of Education, 2006, 2015; Aljughainam, 2004) for identification and provision suggest a blurring between these roles. For example, "teachers of the gifted" in schools teach children already identified as gifted, in separate classes, yet are also supposed to play a role in the identification process. The same is true of the Centres for the Gifted and Talented where the enrichment activities provided appear to serve both as part of the identification process and as a provision for developing and nurturing the abilities of gifted children. Not surprisingly, then, in the interviews, when asked about challenges to the identification of gifted and talented children, participants often mentioned issues that appeared in reality to be more concerned with provision for those already identified. An example was the references to the inadequacy of the curriculum provided for gifted children.

As indicated in Chapter Five (Section 5.2) and as has been evident throughout the thesis, Saudi policy employs a wide variety of terminology in reference to gifted and talented children, and a variety of criteria for their definition and identification. It has been pointed out previously that the choices of terminology and definition reflect different conceptions of giftedness and talent, and in turn, different ideologies about educational opportunity (Mandelman et al., 2010). While some of the observed inconsistencies may be translation issues, as suggested by Alamer's (2014) references, particularly to inconsistencies in English writings on Saudi education, it appears that there were also inconsistencies in the Arab originals, reflected in the confusion expressed by participants. For example, PUST4, a teacher of a gifted class, commented:

> *Even for me, while talented means intelligence as outstanding ability, I cannot explain further than this … I hear the word talented, but I do not know how and when to describe a person as talented.*

A parent (PT1) expressed even more confusion. Describing talent as a 'spiky' concept, he asked,

> *Do you mean that the talented student is smart? A genius? Superior? Outstanding? Creative?*

Similar to Tunnicliffe (2010), this participant recognised the existence of a plethora of terms applied to more able children, with subtle distinctions of meaning and potentially different implications for identification. The government's failure to adopt consistent terminology and identification criteria implies a basic lack of clarity at the heart of the gifted education system, observed by Al-Makkhalid (2012). Such confusion potentially lends support to Al-Qarni's (2010) question as to the appropriateness of borrowing and trying to apply Western concepts in the Saudi context.

Other issues arising from lack of clarity in policy provisions related to gifted children will be discussed below in Section 6.3 (system issues) and later (Section 6.4) in relation to pedagogy, where concerns were raised about the actual methods and procedures applied in the assessment of children and their nomination for the Gifted and Talented Programme.

6.3 Education System-Related Issues

Research question 2 concerned perceptions of challenges related to the education system as a whole. The Saudi educational system was defined to mean everything that goes into

educating both private and public school students at all stages in the KSA. Respondents identified a range of challenges in the identification of gifted and talented children in selected site that derived from the structure and characteristics of the Saudi education system. The challenges identified included a variety of teacher-related issues, inadequate resources, administrative and regulatory issues, and a general problem of lack of motivation towards the programme.

6.3.1 Teacher-Related Issues

A number of concerns raised in the interviews concerned teacher-related issues, including the shortage of qualified and specialist teachers, and the consequent pressure on teachers. Whilst these are identified as systemic issues, it will be shown that as well as direct impacts on the identification of gifted and talented children, they have indirect impacts related to influence on pedagogical choices (discussed further in Section 6.4).

Regarding the lack of qualified teachers, respondents recognised that, as advocated by Yamin and Ambrose (2012), qualified teachers play a pivotal role in the identification process of gifted and talented students; yet, they are in short supply in the region. In particular, the data suggested that the lack of qualified teachers affected the methods used in identifying gifted and talented students, and the confidence of the teachers involved.

> *Unfortunately, this region has just begun the identification of gifted and talented children. That is why we still lack qualified teachers.* (PUST 6, teacher of gifted and talented children)

> *Actually, I am not an expert in this area… not being a specialist is the most important challenge in my opinion*.
> (PUST3, a general teacher recruited to teach a gifted class)

The strain on teachers, in turn, was said to contribute to absenteeism among teachers who felt unequipped for their tasks, and overwhelmed by the extent of their responsibilities. Closely related to the lack of qualified teachers was the lack of specialised teachers within the selected region, which participants attributed to the area and level of teacher training. The data also suggested that the challenge of lack of specialised teachers impacted on both the number of students identified and the quality of identification. It was suggested, for instance, that as a result of the lack of qualified teachers, schools might reduce the intake of students in order to be able to follow up and care for the identified gifted and talented students. Finally,

the lack of specialised teachers, it was argued, leads to a fear that teachers will be overburdened without support.

It was pointed out in Chapter Two that teacher preparation in Saudi Arabia follows a two-track system whereby teachers qualify in either general education or special education; education of the gifted and talented, in the Saudi system, comes into the latter category. Thus "specialist" teachers train and qualify under this track. This means that general education teachers will normally have received no education and training related to giftedness and talent, or the identification of gifted children, even though teacher nomination is supposed to be one of the criteria used in identifying such children (Al-Qarni, 2010; Alamer, 2014).

In an attempt to remedy this situation and meet the needs of the gifted and talented project, the Ministry of Education provided short training courses for the "rehabilitation" of general teachers, which some of the participants had attended. However, they felt the courses were too limited, in both duration and content, to equip them for their new responsibilities. Moreover, it was noted from the review of documents that training packages under the gifted and talented project targeted teachers of "gifted classes", not general education teachers (Ministry of Education, 2015, 2016). Teachers of "gifted classes", meanwhile, are considered to have experience and expertise in the identification of gifted and talented children, and this area was noticeably absent in the training packages reviewed. If the teachers of such classes were indeed graduates of the Special Education track of teacher preparation, they might indeed have some knowledge, but as revealed in the government documents (Ministry of Education, 2007) and confirmed by the participating teachers, this was not always the case. The teachers of "gifted classes" interviewed in this study had simply been nominated to the role by their schools.

> *We are a group of ordinary teachers… I am a teacher of Islamic subjects… with nothing related to the specialisation regarding gifted and talented children.*
>
> (PUST3, teacher of a gifted class)

There appears to be a mismatch, therefore, between the roles of teachers of gifted classes under government policy (which include not only teaching children already identified as gifted and talented, but also advising and liaising with

general teachers in identification and nomination of children for the project) and the actual training and experience of teachers.

The indications in this study of insufficient or inappropriate teacher training to meet the needs of the gifted and talented project are consistent with the claims raised by previous Arab authors, reviewed in Chapter Three. Similar complaints by teachers, of lack of training for their growing range of responsibilities, were reported by Al-Saqran (2011), while Al-Qarni (2010) and Alamer (2014) criticised the lack of attention to giftedness and talent in the preparation of teachers generally, and even in the special education track. Alamer (2014) reports the availability of only one introductory unit related to giftedness and talent. For this reason, it has been suggested, Saudi teachers often lack skills and understanding in areas such as assessment (Alhammad et al., 2004; Budari & Bahebery, 2010). Since training and experience play an important role in the way teachers implement policies and guidelines (Koshy et al., 2012), it is not surprising that shortage of teachers with the necessary training and skills was seen as a challenge to the identification of gifted and talented children.

The literature suggests that, for younger children in particular, teacher nomination may be one of the best ways of identifying giftedness and talent (Winan & Sandhu, 2004), but the success of this method depends on teachers' training (Aljughainam & Ibrahim, 2009; Grubb, 2008). Indeed, suggestions of low accuracy in the identification process, resulting in a high proportion of rejected nominations, were found in this study (see Section 5.3.2.1 and further discussion in Section 6.3.1).

Another challenge reported in the identification of gifted and talented students in the selected region was the pressure on teachers. The respondents suggested that this challenge comes as a direct result of workload on teachers due to the multitude of subjects they are required to cover, but they went beyond that to identify time constraint, and teachers' busy schedules in schools as other related factors.

These concerns can be seen as a reflection of the centralised nature of the Saudi education system, in which the curriculum is synonymous with the textbooks issued by the MoE, and teachers are required to cover specific content in a rigid sequence of units, within a specified time. Such pressures have twofold implications for the identification of gifted and talented children. On the one hand, there would be a direct impact through lack of time for teachers to observe children closely, administer tests or complete nomination and referral procedures

> *As a result of the number of students we have, it is difficult for teachers to carry out observation or an evaluation process.* (PUST3, teacher of a gifted class)

On the other, there may also be an indirect impact through the influence on teachers' pedagogy (see Section 5.2.2), which could have implications for the nature and range of educational activities provided for children and the opportunity for them to develop and manifest their gifts and talents.

With regard to the first point, the direct impact on teachers' ability to carry out the identification procedures, it has already been highlighted that teacher observation is potentially an important part of the process of identifying gifted and talented children (Wiman & Sandhu, 2004) and in theory it is one of the methods accepted by the Saudi Ministry of Education (Al-Qarni, 2010). It was stated in Chapter Three that a number of theories of giftedness and talent imply a need to look beyond formal, standardised ability testing to consider children's other attributes, such as motivation (Renzulli, 2005) and personal characteristics (Gardner, 1983). These are more subjective criteria, which may only become apparent when the teacher has time to observe and develop a relationship with each child individually. Moreover, various techniques proposed in the literature, such as "checking-off" observed behaviours (Eyre, 1997) impose a time burden on the teacher. In the Saudi context, it has been observed that nomination of children to the gifted and talented project (for further observation during enrichment activities, and for formal testing) involves lengthy bureaucratic procedures (Ministry of Education, 2013 a, b). It is conceivable, therefore, that teachers who feel under pressure, simply in coping with the basic demands of the job, may feel unable to spend time closely observing individual children or to take on the additional administrative burden imposed by the gifted and talented identification procedures.

Regarding the second point, the impact of time pressure on teachers' pedagogy and hence on the educational experiences provided for children, other Saudi educationists (not necessarily in the area of giftedness and talent) have reported time constraints and pressure as factors in teachers' adoption of a didactic, teacher-centred pedagogy focused on "covering" the textbooks, with little opportunity for varied activities and student participation. For instance, respondents in Al-Buhairi's (2015) study of cooperative learning cited the time pressure imposed by an overloaded curriculum as a reason for the dominance of the "lecture" mode of teaching. Such restrictions are likely to reduce the opportunity for giftedness and talent to be

manifested. It was discussed in Chapter Three that in recent years, definitions and theories of giftedness and talent have included ability in a range of pure and applied fields. For example, Sternberg (1993, 2004a, 2004b) whose theory of intelligence is known in Saudi Arabia, as shown in the Document Analysis in Section 5.2.4, refers to analytic, creative and practical intelligence. Gardner (1983, 1999) also suggests that children can be gifted and talented in a wide range of areas. It can be suggested, however, that children may not have the opportunity to develop or show all their abilities if they are not given the opportunity to participate in a variety of educational activities. Any factor that reduces the likelihood of such opportunities – such as pressure and time constraints on teachers – may therefore pose a challenge to the identification of gifted and talented children.

6.3.2 Resources

This sub-theme within the overall theme of education system-related factors, comprises codes (lack of facilities, budget, teacher student ratios) reflecting the infrastructure and facilities of schools, financial allocations to education and particular, the gifted identification and welfare programme, and the related problem of staff student ratios. Respondents identified the lack of facilities as a challenge in the identification of gifted and talented children in the selected region. The lack of facilities identified included inadequate schools and centres, and the lack of computers and other teaching aids. For instance, the majority of respondents noted that the absence of the appropriate facilities such as schools and centres creates an environment in which students experience boredom and this might stifle the creativity of students in general. As noted in Chapter Three (Section 3.3), motivation is an important factor in Renzulli's (2005) theory, implying that potential may not be realised if motivation is absent. Moreover, lack of opportunity or incentive to display creativity would undermine one of the dimensions of Sternberg's view of giftedness (Sternberg & Grigorenko, 2004b).

Participants' perceptions of inadequate resources are corroborated by the research outcomes of Ibrahim (2002) and Al Qefari (2010) who both concluded that at school level, various obstacles exist such as the lack of facilities, which can prevent the efficient identification of gifted and talented children in the KSA. Indeed, according to Yamin and Ambrose (2012), a lack of facilities and resources is a general problem facing gifted education projects throughout the region.

Regarding resources, the lack of resources, both physical (workshops, computers and other facilities) and financial (sufficient budgetary allocation) was also mentioned as a challenge in the identification of the gifted and talented in the selected region. The research finding was that the lack of resources limited pedagogical choices, which in turn impacted on the identification of gifted and talented children. This was illustrated by, for example, PUST 9, a teacher of a gifted class, who suggested, '*Without facilities such as laboratories and libraries, it may be difficult for a teacher to recognize the gifted and talented students'*. The majority of respondents identified that the region lacked the needed physical infrastructure such as centres and computers to facilitate the gifted and talented programme in most schools. This lack of resources, they argued, affected the achievement of both students and teachers. Renzulli (1986) suggested that schools should make resources a priority in order to facilitate the successful implementation of the gifted and talented programme.

Although Saudi Arabia is seen as a rich country, respondents perceived resources issues as due to a lack of financial support to enable schools to do their work well. They suggested that the gifted and talented programme is "operated on a financial deficit model." Participants' perception of the shortage of facilitates that would facilitate provision of more varied educational experiences is consistent with the research notes taken to record contextual observations in the participating schools (see Chapter 4, Section 4.4.5.2). In general, the participating schools had few or no computers and technological devices in the general classrooms, and while each school had a laboratory and a library/resources room, it is important to bear in mind that these had to be shared among around 400 children. The classrooms for gifted children were better equipped than the general classrooms but the shortage of facilities in those classrooms raises the question how children with particular abilities will be identified if there is no infrastructure to allow them to show those abilities. An obvious example is the area of IT, where the lack of facilities suggests that most children would have little or no opportunity to work with IT devices, although, as noted previously and identified in MoE documents, this subject is a government priority, particularly targeted in the gifted and talented identification and welfare project (Ministry of Education, 2013b).

The perception that these deficiencies were due to lack of spending on education is, however, at odds with the large and steadily increasing allocations to education in successive government budgets (Jadwa Investments, 2015). In particular, one of the main objectives of the King Abdullah ("Tatweer") project for educational improvement was to upgrade the school environment with up-to-date resources including computers and technical devices to

support the education process (Alyami, 2014). However, as noted in Chapter Three, the project has been delayed, as it proved too costly for the government to finance such an ambitious programme for the whole country and many schools have been left with the responsibility for their own development (Alyami, 2014).

Questions of budget, infrastructure and facilities were not highlighted by the previous authors on challenges in gifted education, reviewed in Chapter Three (Section 3.6). However, the trend to view giftedness and talent as potentially manifested in a variety of activities (Gardner, 1983, 1999; Sternberg, 2004) and specifically, the government's declared interest in discovering abilities in science and technology (Ministry of Education, 2013b) would imply the need for facilities that afford children the opportunity to engage actively with such subjects in varied and creative ways. In a context where children have little opportunity to do anything other them memorize textbooks and complete standard exercises, it will be more difficult for them to develop and display the kinds of skills the Saudi MoE claims to be looking for, and for teachers to observe them. This is in part an issue of pedagogy, discussed in Section 5.3.3, but it is also a resources issue, as teachers who may be willing to apply a more constructivist pedagogy (which teacher training purports to support, Ministry of Education 2007) are constrained by lack of resources. but it is also a resources issue, as teachers who may be willing to apply a more constructivist pedagogy (which teacher training purports to support, Ministry of Education 2007) are constrained by lack of resources. Such problems have been noted by previous researchers on education, as reasons for the limited range of educational activities in which teachers involved their classes Al-Buhairi, 2015)

A related challenge identified by respondents was the teacher/student ratio in schools. As PM1 acknowledged, 'Of course, the large number of students in classes is a big challenge, because it does not allow the teacher to work efficiently'. Participants therefore stressed by way of recommendation that because there is always a huge demand on teachers as a result of the huge number of students, the educational policy should make clear the maximum numbers of students per class in order to help solve this challenge.

The research notes taken by the researcher during visits to schools to conduct interviews similarly recorded large numbers of children in classes - apart from the gifted classes. In general classes, the researcher saw that classes of 30 or more pupils were common, and in school C, there were as many as 38 children in some classes. Similar issues of large class sizes have been reported previously (Ibrahim, 2002). Whilst participants saw this as a policy

issue that could be resolved by the introduction of a government regulation, the situation is more complex and is related to the previously mentioned shortage of teachers and limited infrastructure. Both these concerns reflect the difficulty, for the government, of keeping pace with the rapid growth in population, combined with the increasing demand for education. Some schools (including school B in this study) are still housed in leased buildings, originally built for other purposes, while even in purpose-built schools, the pupil numbers far exceed those for which the schools were originally built. The twin factors of teacher shortage and inadequate infrastructure make it difficult to create additional classes in order to improve student-teacher ratios. At the same time, large class sizes pose a challenge to the identification of gifted and talented children because they limit the opportunity for teachers to observe individual children and (especially where rooms are small and not well equipped) add to the factors constraining the types of activity in which children have the opportunity to take part.

6.3.3 Administrative and Regulatory Factors

The role played by the DoE in the identification of gifted and talented children was also identified as a challenge. Respondents argued that the DoE currently has in place a weak evaluation system in measuring the progress of students who are considered gifted and talented. The consensus on this was that the DoE has over the years attempted addressing the challenges in the gifted and talented project but has failed because of the weak evaluation system in place. At the moment the DoE does its evaluation using a top-down approach where officers in the DoE routinely visit centres to carry out such evaluations. However, respondents saw this type of evaluation as weak and called for a change in order to make it more useful and effective in the identification of gifted and talented students. They recognized that, as Winstanley (2004) argues, gifted children cannot be treated as a homogenous group due to case by case needs. The same point is made by Borland (2012), who criticised the 'myth' of a homogeneous body of 'the gifted', possessing certain common characteristics (such as high IQ) and requiring a specific kind of differentiated education. The diversity among gifted and talented children's abilities and needs calls for various diagnostic methods that capture a variety of abilities and attributes, and caution should be used by those that seek to make attributions of giftedness and talent.

Respondents also identified the inadequate supervision of schools as another challenge in the identification of the gifted and talented children in school, meaning that school supervisors, who play advisory and inspectional roles, paid too few visits to schools or gave inadequate

advice to teachers on identifying gifted and talented children. Here, respondents were categorical that inefficient supervision leads to common educational errors in the identification process. This claim, however, raises other issues related to assessment criteria and procedure discussed under pedagogy in section 6.4.

6.3.4 Motivation

Motivation was another challenge identified by research respondents in the identification of gifted and talented students in the selected region. Respondents linked motivation to teachers' lack of interest and insufficient incentives for teachers. This outcome is similar to the research outcomes by Csikszentmihalyi et al. (1997), who identified that a teacher's motivation facilitates both learning and the identification of gifted and talented children.

However, according to Callahan and Miller (2005) the challenge of motivation is relevant not only to teachers but also to the identified gifted and talented students as well. They suggest that gifted and talented students can be identified by their independence and motivation, in addition to their desire to remain deeply stimulated by the complexity of learning and sophisticated analysis. Creative-productive students are identified as those that enjoy problem solving, be it real world or created.

As indicated in Chapter Three, motivation is one of the three criteria of giftedness proposed by Renzulli (1984, 2002) and intrinsic motivation for study is also noted as a characteristic of gifted children according to Callahan and Miller (2005). Attribution theory (Weiner, 1985) and Goal Theory (Covington, 2000; Elliot et al., 2002) both imply the importance of motivation in academic performance. Thus, children who are not motivated to study may fail to realise their academic potential. This in turn means that potentially gifted children may not be identified as such or may not sustain their performance and hence lose their gifted status (Sternberg, 2004).

The Ministry of Education's (2007) discussion of the importance of specialist gifted education teachers addresses the motivation of children already identified as gifted, but motivation is important for all children. For some children, with high potential, the possibility of being nominated to the gifted education programme and taking part in enrichment activities could potentially be a source of extrinsic motivation and a goal to aspire to, encouraging them to sustain their effort and strive to achieve. However, the responses of participants suggest that lack of faith in the programme prevented it having a motivating

effect. As PM5 observed, '*The lack of motivation has led to the reluctance of many families to send their children to the centre'*.

A statement setting out plans to prepare teachers for the gifted and talented project (Ministry of Education, 2007), drawing on Renzulli (1984) suggested that an important role of teachers in the project would be to develop and sustain children's motivation, to assist them in realising their potential. This, however, raises the question of how teachers will motivate children for academic excellence if they themselves are demoralised and lack faith in the project.

Previous Arab literature has suggested resistance among teachers to the notion of gifted education (Al-Garni, 2012) and lack of interest in trying to distinguish gifted and talented children (Alamer, 2010). Global literature also reports instances of hostility towards the concept of giftedness and talent, among teachers and the wider society, either based on egalitarian principles (Passow, 1993; Urban & Sekowski, 1993), or due to opposition to specific concepts of giftedness that do not accord with local culture (Reid, 2006).

The reason for this resistance in the Saudi case may be ideological, given that Saudi Arabia's current education system was built on the slogan "Education for all". However, the findings in this study, regarding systemic weaknesses and the pressure on teachers, which were acknowledged by policy makers and noticed by parents, suggest that the situation is far more complex. It is certainly not enough simply to blame teachers' lack of professionalism, as Altayer (2012) did. Rather, it seems that a variety of factors related to unclear or incomplete policy (Section 6.2), the pressure imposed by the centralised education system, and weaknesses in the gifted and talented project itself, continue to undermine teachers' faith in the project and, in turn, the enthusiasm of the parents, and of the children themselves.

In summary, the findings of the section were based on respondents' views on how the educational system and policy of Saudi Arabia pose a challenge in the identification of gifted and talented students. The main themes discussed included the lack of a clear definition of gifted and talented children, or of criteria for identifying them, the lack of qualified teachers in the selected region; the lack of specialised teachers; pressure on teachers; the lack of facilities in schools; operation on a financial deficit model, teacher: student ratios, administrative and regulatory problems, and low motivation.

6.4 Perspectives on Pedagogy

Research Question 3 concerned participants' perspectives on teachers' pedagogical beliefs and practices. These factors obviously overlap with the systemic issues discussed in Section 6.3, since such issues constrain teachers' pedagogical choices. This section of the chapter, however, specifically explores respondents' views on how the identification actually happens and to what extent this poses a challenge in identifying gifted and talented children in the selected region. The broader themes explored in this section include: the selection criteria of gifted and talented children; assessment; the curriculum of the project, and research (past and present). These themes are explored and discussed in this section.

6.4.1 Selection Criteria

Regarding selection criteria, the research findings revealed that participants perceived the criteria applied as a challenge in the identification of gifted and talented children in the selected region in Saudi Arabia. Specifically, the research findings suggested that the nomination process and the role played by teachers in the selection process are viewed as the main challenges associated with criteria for the selection of gifted and talented children in the region. Many expressions of concern actually pertained to teachers' implementation of the criteria, rather than the criteria per se. Nomination of gifted and talented children was identified as a challenge, firstly, because the existing nomination process was considered random and non-objective. Secondly, it was identified that the nomination process lacked standardised criteria for measuring the talent of gifted and talented children. Some participants suggested that this uncertainty led to "teacher error". An example in this respect was given by a private school teacher, who noted the discrepancy between the number of children nominated by his school, and the number actually accepted by the Centre for the Gifted and Talented. It could be argued, however, that such experiences are not simply evidence of teacher "error" but reflect the confusion and inconsistency, in policy and practice, regarding the understanding or definition of giftedness and talent, the criteria for identification and the roles and practices of various participants in the identification process – all stemming from government policy.

In one document, for example, it was suggested that nomination for the gifted and talented project might include up to 15-20% of the children in a given school. The high proportion seems inconsistent with literature suggesting that identification procedures typically identify around 5% of the population, depending on the criteria used. In the UK, for example, the DCSF (2008) suggested a variety of measures for distinguishing the "top 5%" of the

population. In Saudi Arabia, Bondagjy (2000) suggested that 2% of the population fell into the gifted category, while another government document suggests the top 3% of pupils, as a criterion (Ministry of Education, 2013a). It is certainly unlikely that 15-20% of pupils in a school would meet, for example, the Wechsler scale criterion score of 124-140, which is another criterion stated in current policy (Al-Makkalid, 2012). The discrepancy between these figures indicates that school nomination is not, in itself, an identification or confirmation of giftedness and talent, but a perception of potential to be confirmed (or not) by activities and testing at the Centre. The fact that not all nominated pupils were accepted does not necessarily mean that teachers made "errors", but that there is confusion about the nature and purpose of the nomination process,

Such confusion and inconsistency is not confined to Saudi Arabia. Application of varied criteria has been noted in the UK (Koshy et al., 2012) and the USA (McClain & Pfeiffer, 2012), reflecting the continued controversy regarding what giftedness and talent are and how they can be measured or identified (Dweck, 2000; Sternberg, 1993; Renzulli, 2002, 2005). Perceptions of specific methods used in the Saudi context are discussed in the next section, on pedagogy. However, at this point, it is worth emphasising that the lack of clarity and incompleteness of Saudi policy on giftedness and talent (Aljughaiman & Grigorenko, 2013; Al-Makkalid, 2012) contribute to a state of conceptual and practical confusion that constitutes one of the fundamental challenges to the identification of gifted and talented children.

The weak role of teachers in identification of giftedness was another challenge identified in relation to the selection criteria of gifted and talented children in the selected region. According to PUST2 '*I think a large number of teachers are ignorant of the traits of gifted and talented students and may not even consider the gifted and talented students in their classes for nomination'*. This research finding echoes a research outcome by Al Ghamdi (2007) which suggested that the giftedness programmes carried out by the Saudi MoE are not met by positive reactions by the teachers. This is a matter of concern, given the importance of the teachers' role in theory and practice, as identified in Chapter Three (Section 3.6), as well as the expectation that teachers would be involved in at least some of the identification processes outlined in Saudi government policy (Chapter Five, Section 5.2.3).

As indicated in Chapter Three, international literature including both theory (Mandelman et al., 2010; Silverman, 2007) and documented practice (Koshy et al., 2012; McClain &

Pfeiffer, 2012) refers to a variety of methods used to identify gifted and talented children, which Gray et al. (2009) divided into objective and subjective measures. Objective measures, such as Torrance and Wechsler tests and SATs may or may not be administered in the Centre for Gifted and Talented Children, to which children are referred by the schools for this purpose. Heller (2004) saw such tests as an indispensable part of the selection process, although Almeida et al. (2008) and Borland (2012) challenged their validity and the latter criticised what he called the "fetish" for reliance on such tests. However, subjective measures, which Sternberg and Davidson (1986) suggest are applicable to implicit theories of intelligence, rely heavily on teacher nomination; an example is the subjective, discursive, "teacher narrative" favoured by Borland (2012), although he gives no further detail as to the content or format of such evidence.

Renzulli (2005) suggests this process may capture characteristics that may not appear on intelligence and achievement tests. As noted previously, teacher nomination is among the methods accepted in Saudi Arabia for identification of gifted and talented children, although it is supposed to be used alongside at least one objective measure (Ministry of Education, 2006). Alqefari (2010) has also drawn attention to nomination based on teachers' perceptions and experience. Several of the methods identified by Sternberg (2004) as helpful in the identification of gifted and talented children rely on the teacher, both in setting appropriate tasks through which diverse abilities may be observed, and interpreting the outcomes. However, these depend not only on teacher training and expertise, but on a degree of autonomy that may not be available to teachers in Saudi Arabia. It was pointed out earlier that education in Saudi Arabia is characterised by strong centralisation of control by the Ministry of Education (Al-Agla, 2001), which requires rigid adherence to the standard textbook (Al-Buhairi, 2015) and overloaded curriculum (Aleisa, 2009). This may leave little room for teacher-created tasks, such as those suggested by Sternberg and Grigorenko (2004b) for operationalizing the Triarchic Abilities Theory. At the same time, as suggested in earlier sections, there is a lack of clear guidance to teachers or criteria for the identification of gifted and talented children and a shortage of teachers with knowledge and training in this field. Thus, there seems to be a mismatch between the role of teachers in the identification process stated in government policy (Ministry of Education, 2013a) and the support for them to perform their role effectively in practice.

6.4.2 Assessment Method

The assessment methods used in the identification of the gifted and talented were considered yet another challenge. It was stated by the majority of respondents that the existing assessment methods used focus mainly on mental ability tests which require students to be tested on their numeracy and literacy levels. This finding is consistent with reported practice in a number of national contexts (Clark, 2006), and according to Yamin and Ambrose (2012), writing on the Middle East context, reflects a pedagogy that emphasises cognitive development.

The majority of respondents considered this assessment method as old-fashioned and erroneous. For example, PM1 argued that assessment based on '*perceived mental capacity is inaccurate and not up-to-data*.' Callahan and Miller (2005) called for the testing of children's creativity and use of various thinking skills and problem solving skills as alternative assessment methods that can help to resolve the challenge associated with assessment. The views expressed by participants are consistent with Sternberg and Subotnik's (2000) claim that such tests are too restrictive in the abilities captured.

The claim that the identification process depends solely on achievement tests contradicts Ministry of Education policy as stated in the documents reviewed in Chapter 5, Section 5.2 (Ministry of Education, 2006), as well as the reports of Saudi authors (Al-Qarni, , 2010; Alqefari, 2010). This contradiction appears surprising, given the high level of centralisation of educational decision-making (Motoally, 2004), which is commonly commented on and criticised (Alhamd et al., 2004; Algarfi, 2010). In theory, schools do not have autonomy (Alzaidi, 2008), which raises the question why the schools in this study were seen by participants as applying practices that do not conform to declared policy. Several reasons can be suggested. One is confusion caused by the lack of explicit attention to identification procedures, noted in policy documents, and ambiguities and inconsistencies in the few provisions that exist (see Chapter Five, Section 5.2). Another could be lack of communication or unawareness of policy, given the large area of the country and the unwieldy bureaucracy of the institutional structure for the gifted and talented programme (Ministry of Education, 2004). Another could be teachers' lack of confidence or ability to use other methods, given the training issues identified previously (Section 6.2.2). There could also be strain on the system caused by the fact that there is only one Centre for the Gifted and Talented, to handle referrals from the whole of the selected region, which might limit the opportunity for children to take other forms of test, or to participate in enrichment programmes (in the evenings or in

summer schools) which are also intended as a chance for their abilities to be discovered (Ministry of Education, 2002).

Among the alternative or supplementary approaches to identification discussed in international literature are checklists, which serve as a guide for teachers. These may alert teachers to a variety of attributes that participants in this study thought were overlooked in the Saudi context. For example, in the UK, the DCSF (2008) offered a generic checklist that included not only academic skills (e.g., reading ability) but also personal qualities such as imagination and strong opinions. Alnafi et al. (2010) report that in the USA, the use of such checklists helped to improve the accuracy of teacher nominations. Nevertheless, it was noted that checklists also have problems; they may be unwieldy and difficult to use (Brady, 2015), lead to stereotyping (Tunnicliffe, 2010) and do not eliminate ambiguity and subjectivity (Winstanley, 2004). As noted in Chapter Three, Borland (2012) criticised what he considered to be their dubious validity and reliability and claimed that they are easily manipulated.

It is also worth pointing out that research and discussion would be needed in order to agree criteria that would be suited to the Saudi context (Al-Qarni, 2010) and many academic and practical abilities, as well as personal attributes, may not easily be demonstrated in the teacher-centred classroom (Rugh, 2002; Elyas & Picard, 2010). Moreover, it is worth recalling the point made by Heller (2004) and Mandelman et al. (2010) that the process of identifying gifted children depends on the underlying model of giftedness and the purpose of identification, which are ambiguous in Saudi policy (Aljughaiman & Ibrahim, 2009).

6.4.3 Curriculum

On how the curriculum poses a challenge to the identification of gifted and talented children in the selected region of Saudi Arabia, the research found that the lack of variation and intensity in curriculum development as well as the lack of a cutting-edge curriculum to meet the needs of the gifted and talented children was identified. This agrees with research findings by Belfast CCEA (2006) which found that the curriculum plays a huge role in the success of the gifted and talented programme. This, however, appears to be an instance of comments that were more related to provision for gifted and talented children than their identification, and seems to reflect the conceptual and practical confusion between the two in the Saudi system, noted earlier.

6.4.4 Research

Research on the identification of gifted and talented students was another challenge identified in the identification of gifted and talented children in the selected region. The research finding is in tandem with the research outcome by Al Ghamdi (2007) which revealed that there was a total mismatch between the basic education system in the Kingdom and modern thinking on the concept of gifted and talented education. There is some evidence that the Ministry of Education has some awareness of research in giftedness and talent, as shown, for example, in references to the theories of Renzulli (1986) and Sternberg (1985; 2001) and to constructivism in a document on teacher preparation for gifted education (Ministry of Education, 2007). However, as seen in Chapter Three, there are inconsistencies between theory and practice worldwide, so research would not necessarily offer a clear prescription for Saudi education. Indeed, even if there were such a prescription, it is questionable whether it could or should be transferred to the Saudi context since, as Chapter Three: section 3.3.2 revealed, there exist culturally-specific conceptualisations of giftedness and talent, not only between nations, but also within the same nation, such that abilities valued in one context are seen as irrelevant in another. This was illustrated, for example, by Moltzen and Macfarlane's (2006) differentiation of the Maori concept of giftedness from that of the dominant European-based culture in New Zealand; Castellano's (2006) evidence of the value attached to memorization and code-switching abilities by Haitian community in the USA, and Maitra's (2006) recognition of the irrelevance of the 'gifts' favoured in elite Indian schools, to poorer communities, where social and emotional gifts, and business or homemaking skill skills had salience for the community.

Thus, it may not always be feasible for research outcomes from other contexts– theoretical or practical – to be transferred to the Saudi context because of distinctive socio-cultural factors in that context. It was suggested in Chapter Three (Section 3.4) for example, that some aspects of theory, related to particular abilities and personal attributes, may clash with Saudi socio-cultural values. This suggestion was confirmed by participants' perspectives on socio-cultural factors such as family roles and behaviours, social conservatism, and the impact of religion, discussed in the next section.

The above section explored respondents' perspectives on the pedagogy and related challenges in the identification of gifted and talented students in the selected region. The main themes explored included the nomination criteria, the role of teachers in the identification process; assessment; the curriculum; research and the lack of resources. Throughout the section, the

discussion has highlighted how the issues reflected under these themes individually and collectively challenge the identification of gifted and talented students in the selected region of the KSA.

6.5 Perspectives on Socio-Cultural Issues

This section addresses research question 4. Different cultures and societies deal with the identification and education of gifted and talented students differently and in most cases, they are given special attention (Mastropieri & Scruggs, 2007). It has been argued in other research that the culture of the Saudi people is the biggest obstacle in the region in the identification of gifted and talented children (Mastropieri & Scruggs, 2007; Al Ghamdi, 2007). This section of the chapter discusses respondents' perspectives on the social and cultural issues related to the identification of gifted and talented children in the selected region. Specifically, the section focuses on the role of the following: family, social conservatism, science versus culture and religion.

6.5.1 Family

Regarding the role played by the family, this was identified as a challenge given that a typical Saudi family plays a huge role in the social and moral upbringing of children. The research found that the large number of children in Saudi families, families' low level of education, and lack of communication between parents and teachers, all contributed to the challenge in identifying gifted and talented children. These research findings confirm the position of Al Ghamdi (2007) who also identified that certain social obstacles prevent the effective identification of gifted and talented children in the KSA. According to him, the family can sometimes be a barrier if children do not find adequate support and encouragement in their family settings (Al Ghamdi, 2007). Participants' perception that a number of interacting family factors, but especially low education level, are challenges to the gifted and talented identification project, is consistent with various suggestions in the literature. Gagné (2004) highlighted the role of environmental and social factors in the development of gifts and talents, as did Sternberg (1985). Consequently, environment was indicated in the conceptual model of this study (Section 3.7) as an essential contextual factor. As part of this environmental context, parents' low level of education could influence children's ability to develop and manifest their potential. Such children may grow up in an impoverished linguistic and cultural environment, and such children are less likely to do well in standardised tests such as Wechsler (Colangelo & Davis, 2008). There are suggestions that such tests are not reliable for children from socially disadvantaged backgrounds (Casey &

Koshy, 2002, 2006). Another way in which parents' lack of education could challenge the identification of gifted children is through their inability to recognise gifts and talents in their children, and this would weaken the potential role of parental nomination. This is not a method of identification emphasised in the Saudi context, but more aware parents could at least be a source of information to schools about children's abilities and interests displayed outside the classroom (Tunnicliffe, 2010; Worthington, 2001). Gray et al. (2009) suggested that parents could be given forms to help with supplying information to schools, but these would be of no help where a large proportion of parents are illiterate.

Saudi Arabia, as noted previously, has made great progress in expanding education provision and combatting illiteracy (see Chapter Two). Nevertheless, in some regions, there are still high levels of illiteracy, as all categories of participants acknowledged. For example, according to PUST1, parents normally refuse to send their children to the centre because they are illiterate themselves and do not understand the importance of the centre. Older parents may not have had educational opportunities in their youth, if schools had not yet been built near their homes. Moreover, school attendance is not compulsory, so some parents may not have attended, or may have left school at a young age, in order to help with agriculture and livestock, enter the job market, or, in the case of girls especially, for early marriage.

6.5.2 Social Conservatism

Another research finding was that the Saudi society is characterised by attributes such as its closure to outside influences. This was referred to as social conservatism in this research. Two issues were associated to social conservatism: firstly, the notion that few parents acknowledge the talent in their children as a result of their conservative values and secondly, parents' opposition to the concept of gifted and talented because they see it as an outside influence on their culture. As PUST5, a teacher of gifted and talented children observed: ''*We are committed to the community customs and religion, morality and traditions, so everything that is contrary to our religion, our values, our attributes and cultural, society rejects absolutely''*. This research finding is consistent with Al-Lawat (2007). There is a common assumption that identification of gifted and talented children is desirable, both for the children's fulfilment and as a resource for society (Ministry of Education, 2004; NAGC, 2012). However, there are also those who question whether it is necessary or desirable to distinguish and set apart some children as gifted and talented (Borland, 2005; Claxton & Meadows, 2009; Feldhusen & Jarwan, 2001) and some countries, such as France, do not do so (Mandelman et al., 2010). In such cases, however, the rationales tend to be based on

concerns about the validity of the concept of giftedness and talent (Borland, 2005), or the implications from an egalitarian perspective (Mandelman et al., 2010). Another factor that could be in opposition to the imposition of an alien concept of giftedness and talent, divorced from community values. Taylor (1993), for example, in an African context, noted that a system based on singling out students for individual displays of talent is alien to communities that attach more importance to social and affective competencies and to collective activity.

The rationale in Saudi Arabia, however, is different: the superstitious fear of the ‘‘ evil eye’’ mentioned by a few respondents, and the feeling that the notion of giftedness is alien and a challenge to traditional culture. This opposition actually contradicts both the government perspective (Ministry of Education, 2004) and the Islamic view that gifts and talents come from God and should be nurtured so gifted and talented individuals can contribute to society. Thus, it seems that both economic and religious teachings are challenged by deeply ingrained traditional values. Evidence of how deeply rooted these are is evident in the fact that even highly-educated parents admitted that they could not entirely shake off a certain sense of unease about their children’s identification as gifted and talented.

6.5.3 Science versus Culture

On science versus culture, the research findings identified that some scientific methods used in the identification of gifted and talented children conflict with some aspects of the Saudi culture. According to PUST2, ‘*We are closed to the benefits of science and certain developments from other nations because our society is not open-minded’*. The majority of respondents in the research identified that the culture of not wanting one’s child/children to be known or identified as outstanding for fear of societal envy, is as one particular aspect of the Saudi culture that conflicts with the scientific way of doing things. The findings also suggested that there appeared to be a general culture of fear among parents towards the effects of science and technology on the lives of their children. Hence, parents often refused to send their children to the Centre. It is worth noting that in the Arab context, the word ‘science’ is used more broadly than in the West, and can refer to scholarship more generally. Thus, the rejection of ‘science’ can be seen as a rejection, not necessarily of specific subjects, but of new ideas generally. As noted above, this is especially the case for ideas that come from outside, or are perceived to be in conflict with traditional ways of thinking and behaviour. Clearly, this does not apply to all Saudis, since the government itself is keen to embrace new ideas and practices, as required by integration into the global system. Resistance, however, tends to come from the less educated and more conservative members

of society. In this respect, the evidence from this study supports previous claims that the government's modernising agenda encounters resistance (Al-Garni, 2012; Niblock, 2013). It has previously been observed, for example, that Saudi rejection of some abilities and personal qualities associated in the West with giftedness and talent (Al-Garni, 2012; Alamer, 2015) challenges theories such as Gardner's (1983; 1999) as well as the Saudi government's declared wish to identify students with leadership qualities (Al-Makkahlid, 2010). Such attitudes support the idea of context-specific notions of giftedness and talent, raised in Chapter Three: Section 3.2.2, and illustrate the importance of Taylor's (1993) comments on the need for culturally-relevant conceptualisations of giftedness and talent, that recognise the abilities considered important in a particular society. This might, indeed, prompt the acceptance of gifted education programmes within society and hence, co-operation with the gifted and talented project discussed in Chapter Two (section 2.6). At the same time, it could mean that abilities are promoted which may not be valued or practically useful in a globalised world. The Saudi government's ambitious vision for the country's development and international role in some respects places it at odds with the traditional culture.

Culture is therefore a challenge to the identification of gifted and talented children in this region. Adel et al. (2012) agree that culture forms an important basis of KSA's society, to the extent that it makes nurturing of new talents difficult. This closed culture is reflected in the restrictions of the conservative education system, which make it difficult for children to develop their talents.

6.5.4 Religion

On the question of religion, the research findings suggested that pedagogical practices with roots in Islam pose a challenge in the identification of gifted and talented children. Primarily, the general opinion was that in Islamic teaching, students are encouraged to memorise verses from the Holy Quran, rather than being innovative, critical and creative. The tradition of learning through memorization, which has influenced pedagogy in other subjects also, was what respondents considered a challenge in the identification of gifted and talented children in the region. The perception of participants in this respect is consistent with points made in educational literature. For example, Rugh (2002) and Elyas and Picard (2010) comment on the didactic, teacher-centred pedagogy employed in Saudi schools, and the heavy reliance on rote learning. They trace these practices to the long history of Quranic education, which for centuries was the only kind of formal education in the region. During this period, the traditional role of the sheikh or teacher as the unquestioned source of knowledge, and the

practice of rote learning, became strongly embedded. According to these authors, these entrenched traditions persist in the present day, and inhibit creativity on the part of both teachers and pupils. This may mean that gifted and talented children have limited opportunity to engage in activities in which their abilities can be manifested.

Another way in which participants thought religion posed a challenge to the identification of gifted and talented children was through the presentation of rules that require certain behaviours and prohibit others. This is seen as a major factor in the rejection of new ideas and practices, because Saudis people reject anything that they think is (or might be) contrary to religious principles.

The perception that Islam may be an obstacle to certain kinds of knowledge or the development of certain skills appears inconsistent with Islam's emphasis on knowledge and learning for all people, based on the belief that knowledge ensures a better position to make choices (Adel et al., 2012). The value placed by Islam on education has been documented in history. For example it is recorded that Prophet Muhammad, following the Battle of Bader (in which the Muslims under his command defeated a non-Muslim army) imposed as a ransom on the enemy captives, only that those who were literate should teach reading and writing to his followers (Al-Diyar Bakri vol.1, p.395 cited in Adel, et al., 2012).

However, the Islamic culture is conservative in many respects such as education, arts and sports; areas in which children who are gifted and talented may have interest. The education system is also strict about aspects such as attire in sports and the music that is allowed, because of the culture. Additionally, aspects of gender are explicitly highlighted in the Quran, which categorically states the role and conduct expected of female and male children, which may influence how characteristics such as leadership and inclination to express opinions are viewed. This highlights the impact of Islam on education, some of which may influence opportunities for gifted and talented children to develop their abilities and have them recognized. The Islamic religion also has strict rules and regulations on matters concerning social life. For instance, there is a strict rule on separation of genders in post- kindergarten of education and female students are not allowed to participate in sports which appear to be masculine, such as ball sports or swimming. Although some participate, they must adhere to some rules such as wearing the hijab (Adel et al., 2012).

Arab authors agree in noting the influence of religion as one of the main characteristics of Saudi education (Al-Hogail, 2003; Al-Sarbla et al., 2004; Al-Gathami, 2009; Aboalfaraj,

2004). Indeed, as noted in Chapter Two, Saudi educational policy was formulated in the light of the Islamic code (Alyami, 2014). However, some Saudis have expressed concern about how this influences the identification and education of gifted and talented children.

According to AI-Lawat (2007), the gifted and talented students in KSA and other Islamic states are slightly disadvantaged compared to others elsewhere. AI-Lawat notes that motivation is the key to teaching and nurturing talent. In the West, she notes, religion and politics have very little influence on the basic sectors such as education, arts and talent management, unlike the case in KSA and other Middle Eastern states. She goes on to claim that this liberalisation in education in Western countries plays a crucial role in allowing talent and abilities to flourish. Al-Lawat's view can be challenged, particularly with regard to what she sees as the freedom from political interference in Western education. However, her perception of religion as a constraining influence that challenges the identification of gifted and talented children was echoed by participants in this study.

Other authors, however, have a more optimistic view. In the 20th and 21st centuries, conservatism is being slowly but surely replaced by more liberalised approaches to life according to Oyaid (2009). He notes that the advent of technology, e-learning and ICT places the Saudi system in tandem with the rest of the world. In future, he argues, it may be impossible to completely control the learning processes of students in KSA.

Indeed, there is already evidence that the Saudi government, while still upholding its Islamic principles, is looking towards outside sources in developing its education system, including the project for identification and welfare of gifted and talented children (see Chapter 2). The question is whether and how these innovations are communicated to and accepted by society as a whole.

In summary, the section considered respondents' views on the socio-cultural challenges in the identification of gifted and talented children in the selected region. The themes explored included the role played by the family; social conservatism, science versus culture, and religion.

6.6 Chapter Summary

The definitions of the gifted and talented are often confused by many. Many theorists have provided definitions for the gifted and talented and although some definitions distinguish between them, for instance as potential and realized abilities (Gagné, 2004), or academic and

applied abilities (DCSF, 2008), in others, the line between the gifted and talented is more blurred, linguistically and practically (Renzulli, 1979; Heller, 1993; Gullotta & Bloom, 2002; Oyaid, 2009). In the particular case of Saudi Arabia, the major challenges identified in the identification of gifted and talented students included the educational system and policy of Saudi Arabia, pedagogical issues as well as socio-cultural issues, all of which interact in complex ways.

The information obtained in this study, from government documents and interviews with policy-makers, teachers and parents, suggests that a fundamental challenge to the identification of gifted and talented children in the selected region is a lack of clarity in government policy, regarding the definition of such children, and the criteria by which they may be identified. The structure of the gifted education project adds to the confusion, with duplication of responsibilities and lack of a clear distinction between the identification of gifted and talented children and provision for them. Further systemic challenges arise in the implementation of the project, due to the shortage of appropriately qualified and experienced teachers, the pressure on teachers, and inadequate resources. All these affect teachers' pedagogical choices and hence, the opportunities available for children to develop and display abilities and attributes associated with giftedness and talent. They also constrain the time available for teachers to observe and report on children's behaviour and aptitudes. Such challenges are consistent with the claims of previous Arab writers about the challenges to gifted education generally. They also reflect wider controversy surrounding the nature of giftedness and talent reported in the literature review. They also pose a challenge to the application of theories of giftedness (such as those of Renzulli, 1986 and Sternberg, 1985, 2001) that call for teachers' and parents' involvement in identifying a wide range of abilities and aptitudes, including not only academic achievement, but also creativity, motivation and practical abilities.

These challenges appear to be reflected in the assessment process itself, which, according to participants, focuses mainly on achievement tests, contrary to government policy (Ministry of Education, 2006) and educational theory (Sternberg, 2004). Vague and inconsistent identification criteria result in "teacher error", subjectivity and perceptions of unfairness; participants thought these problems were compounded by a lack of research on giftedness and talent.

One area in which some participants thought research was needed was to explore the readiness of Saudi culture to accept the gifted and talented project. All categories of respondents thought that there were challenges to the project arising from family issues (low levels of education and lack of awareness leading to failure to support children's education), and social conservatism causing resistance to the idea and practice of identifying gifted and talented children. Such conservatism may arise in part from fear of innovation, in case it contravenes religion, although government policy strongly upholds Islamic values. Whilst the influence of Islamic tradition on pedagogy, in teacher-centred approaches and emphasis on rote learning, has been mentioned by previous authors (Rugh, 2002; Elyas & Picard, 2010), many of the socio-cultural issues discussed have not been raised by previous authors. This highlights the distinctiveness of the Saudi cultural context and suggests that some aspects of thinking and practice in the identification of giftedness and talent, reported in the literature, may not, at least at present, be applicable in Saudi Arabia, despite the rhetoric of government policy. In the next chapter, which concludes the thesis, the implications of these findings will be discussed, along with the limitations of the study, and suggestions for further research.

Chapter Seven
Conclusion

7.1 Introduction

The purpose of this concluding chapter is to provide an overview of the research and offer some thoughts on potential future research activity to build on the contributions of this study. The chapter begins with a summary of the research motivation, purpose and method, followed by the main findings in relation to the research questions. The contributions of the research to theory on the education of gifted and talented children are highlighted and the limitations of the work are acknowledged. Following suggestions for further research, the chapter ends with some brief concluding remarks.

7.2 Summary of the Study

As indicated at the start of this study (Section 1.1), in recent years, the KSA has joined those countries that enact policy aiming to identify and make special provision for gifted and talented children. The government's rationale for this is twofold. One argument is that identifying and nurturing such children will enable the country as a whole to benefit from their academic and technical abilities, as well as the creative thinking that those individuals are assumed to possess (see Document Analysis, Section 5.2). The second is that children are entitled to education that suits their abilities, and children with gifts and talents must be sufficiently challenged so they do not become demotivated.

Nevertheless, Saudi researchers have suggested that progress in this area has been slow. Several Saudi scholars have, as indicated in Chapter Three, drawn attention to the challenges which they claim face the area of gifted education as a whole. However, some of the research was purely theoretical, without supportive empirical evidence, and none of it referred specifically to the identification process itself. This left gaps in the current knowledge that the present research aimed to fill. For this reason the researcher investigated policy, systemic, pedagogical and socio-cultural factors potentially challenging the identification of gifted and talented children in boys' primary schools, drawing on the perspectives of policy makers, teachers and parents in one selected region in the north-east of Saudi Arabia.

This exploratory research adopted an interpretive/constructivist standpoint, with the aim of gathering rich data on the experiences, perceptions and opinions of people involved with the

project for the identification of gifted and talented children, in various roles. Data were collected mainly via semi-structured interviews with purposively selected participants. These were complemented by analysis of documents from national and local governments, related to aspects of the national project for the identification and welfare of gifted and talented children, and contextual research notes made during visits to four selected primary schools and the Centre for Gifted and Talented Children in the selected site. The researcher used both top-down and bottom-up procedures to analyse the data into codes, categories and themes. A summary of the main findings from this process is provided in the next section.

7.3 Summary of the Main Findings

This section contains a summary of the main findings that emerged from the data analysis, in relation to the research questions presented in the first chapter of the thesis. The main research question concerning the challenges facing the identification of gifted and talented children in selected site was broken down into sub-questions, relating respectively to policy, education system, pedagogy and socio-cultural factors. Whilst the analysis revealed that the various factors are closely connected, a distinction was made for analytical purposes, and the same structure is followed here.

7.3.1 RSQ 1: Policy Challenges

A core issue raised in the research was the failure of policy to provide a clear definition of giftedness and talent, and to set clear and consistent criteria for their identification. Examination of documents revealed a variety of definitions and criteria, according to the purpose of the documents concerned, which would have very different implications for identification practices. As shown in the analysis of government documents, policies aim at identification of the top 3% of the school population for acceleration programmes, but from 15-20 % for nomination to the enrichment programmes run in schools and centres. The consequence was a state of confusion among all categories of participants, regarding the concepts of giftedness and talent, how they are operationalised in the Saudi context, and what is the basis for the identification of gifted and talented children. Parents of children identified as gifted and talented did not know how or why their children had been identified in this category and even teachers with responsibility for identifying gifted and talented children were confused.

Such incompleteness or lack of clarity of policy has been highlighted by previous scholars writing on gifted and talented education in Saudi Arabia, although not with specific reference

to the identification process. However, this study identified a further dimension of this challenge in the conceptual and practical confusion in the identification of gifted and talented children and the education of those who are identified as such. This was reflected in policy statements, in the institutional structure for identifying gifted and talented children, and in the interviews, where some participants appeared to have difficulty in distinguishing between identification and provision as distinct concepts and phases. This was reflected, for example, in responses that claimed the curriculum for gifted education is one of the challenges to identification of gifted and talented children (Section 5.3.2)

7.3.2. RSQ 2: System-Related Factors

Challenges in the education system, which also reflected policy issues, included several teacher-related factors. These included the large number of unqualified teachers, dating from the early times of rapid educational expansion when individuals were recruited to teach without specific training in education, and the shortage of specialised teachers, trained in the areas of giftedness and talent. These factors in turn led to high levels of pressure on teachers. For teachers in schools, there was the pressure of being expected to take on new responsibilities (the identification of gifted and talented children) for which they were not adequately prepared, alongside the existing burdens of large class sizes and an overloaded curriculum. For teachers at the Centre for the Gifted and Talented, who provide enrichment activities for the children nominated as potentially gifted and talented, and carry out diagnostic tests, there was the pressure brought by their small number, relative to the number of schools and pupils in the selected region.

There were also perceived challenges arising from a shortage of facilities and inadequate budget. Shortage of resources in schools, for example, could constrain the activities in which children could be engaged, either in the classroom or outside lesson time. This in turn would have implications for the opportunities available for children to develop and manifest particular abilities that might be characterised with notions of giftedness and talent. The Saudi government, for example, has declared particular interest in discovering and nurturing abilities in science and technology, yet the shortage of equipment for these activities in the schools visited, suggested that it may be difficult in practice for children to develop and display gifts and talent in these areas. Another manifestation of inadequate physical and financial resources was the poor teacher-student ratios in the schools. These, again, would constrain pedagogical choices and development opportunities for gifted and talented children.

They would also restrict the time available for teachers to observe and interact with individual children, as a step towards identifying their abilities.

Another category of system related challenges raised by participants was administrative and regulatory, as reflected in the roles of the regional Department of Education and of supervisors from the Centre for the Gifted and Talented, who visit schools to advise teachers. Although teachers adopted an attitude of blame towards both these agencies, it seems that in practice, any shortcomings in their ability to perform their duties stems from the factors mentioned above: confusion stemming from vague policy and unclear or duplicated responsibility, and the difficulty of operating referral and advisory services with too few education, supervisors (who inspect and advise on teaching methods and policy implementation) relative to the size of the region.

All these factors were, in the eyes of the participants, responsible for the frequently-mentioned problem of poor motivation towards the project and lack of cooperation with it, on the part of teachers, parents, and children themselves. The overall impression was that, despite the declared interest in identifying gifted and talented children, which was acknowledged by participants, the government had not yet been able to provide the clear policy direction and (at least in the selected region) the human, physical and financial resources that might be necessary to ensure smooth implementation of the project and fulfil the government's aspirations.

7.3.3 RSQ3: Pedagogical Challenges

Perspectives gathered under the theme of pedagogy focused very strongly on the actual criteria and perspectives applied in the identification of gifted and talented children, including the process for nominating children for participation in the Gifted and Talented project, the role of teachers in this process and the assessment methods and instruments used. Whilst some of these factors are teacher-related, they are classified under pedagogy, as they concern actual classroom practices, unlike the teacher-related system factors in the previous section.

The nomination process, for example, was criticised as being random, subjective, not informed by clear criteria and consequently open to bias. This factor is apparently related to the policy and system issues summarised above, since it is rooted in the lack of standardised criteria for identifying gifted and talented children. This study has identified several different criteria for the identification of gifted and talented children all apparently in current use, and differing widely in the number of children they are supposed to identify, as illustrated in the

previous section. This also offers a possible explanation for the other sub-category under "Selection criteria": the teacher's role and the problem of perceived "teacher error". Confusion over selection criteria, duplication of roles between schools and the Centre, and confusion about the purpose and status of teachers' nominations in the process of identification lead to disappointment and dismay when children nominated by teachers are subsequently rejected by the Centre. Does this mean the teachers made an "error"? Not necessarily; it may be that they were correctly applying criteria (such as those that the Ministry of Education envisages would lead to the nomination of 15-20 per cent of a school's pupils; see Chapter Five, Document Analysis), but, as noted in Chapter Six, other criteria are stated elsewhere and applied for other purposes. There is, nevertheless, also a problem, noted above, of a shortage of appropriately trained teachers. In the schools visited, there were teachers who had been nominated by the schools to teach "gifted classes" and to perform a coordinating role in the identification of gifted and talented children, who had received very little training for the role and lacked confidence in their ability to perform it. Moreover, since teachers were not trained in the application and interpretation of tests of giftedness (for which they referred children to the Centre), these nominations could only rely on subjective criteria or, at best, achievement tests.

Indeed, over-reliance on achievement tests that target a limited range of skills was one of the challenges in the identification process, identified by the participants. This is contrary to advice in the literature (for example, Sternberg, 2003, see Chapter Three) as well as the government's policy (se Chapter Five, Section 5.2). However, if criteria are not clearly explained or if teachers lack the knowledge and skills, and the Centre lacks the resources to apply wider-ranging criteria, such practice is perhaps inevitable. It means, however, that some gifts and talents, such as creativity, in some areas, may go unnoticed.

A further, but related challenge involves the curriculum and teaching methods in Saudi schools. Participants' comments on these areas reflect the confusion, noted previously, between the identification of gifted and talented children, and provision for them after the identification. They recognised rigid curricula and teacher-centred pedagogies as limiting for gifted children and appeared to believe that richer, more varied and more student-centred activities should be provided for these children. However, they seemed not to recognize that such activities might play a role in the development of children in "general" classes, which might contribute to their being identified as gifted. If children in regular classes are provided with a pedagogy that relies heavily on rote learning, strict adherence to official textbooks and

a passive role for students, all of which have been widely claimed by critics of Saudi education such as Rugh (2002), Elyas and Picard (2010), and Alamer (2010, 2014) then the opportunities for them to develop or display various abilities and personal attributes associated with giftedness and talent will be limited.

The last factor mentioned in this category was the lack of local research that could clarify the understanding of giftedness and talent and inform an appropriate pedagogy that could facilitate identification of gifted and talented children. As noted previously, the few available Arab studies on gifted children have not specifically addressed identification of gifted and talented children, as a distinct stage in the Gifted Education system. This study, by making such a distinction and focusing on the identification stage, may be a first step in meeting the need identified by participants in that respect.

7.3.4 SRQ4: Socio-Cultural Challenges

The socio-cultural challenges that participants perceived as challenges to the identification of gifted and talented children can be divided broadly into two sub-categories. The first of them can be labelled family factors, while the second group consists of beliefs and traditions.

Family factors consisted of aspects of demographics, family values and lifestyle, which participants thought influenced the ability or willingness of families to support their children's education, to nurture their abilities, and to provide the school with useful information about signs of giftedness and talent. Such factors included the number of children in the family. This was seen as a challenging factor, both because large family size (common in Saudi Arabia) limited the amount of attention paid to each individual child, and because larger families were observed to be associated with less educated parents. Low level of parental education was itself seen as a challenge to the identification of gifted and talented children on the basis that uneducated and illiterate parents placed less value on education, or simply lacked the ability to support their children's gifts and talents; such children might therefore be less likely to reach their potential and to produce academic or creative performance that would lead to identification of giftedness and talent. Parents might also fail to support their children's developing abilities, due to a preference to focus on practical and material outcomes. There were suggestions that girls, in particular, were more likely to be kept at home to help in the family (although, as this study was conducted only in boys' schools, it was not possible to verify this perception). A last family-related factor seen as a challenge to the identification of gifted and talented children was ineffective communication

between home and school. Teachers tended to blame this on parents, although the two parents interviewed felt that schools did not do enough to discuss and explain their children's abilities. Any such communication gap, weakening the relationship between home and school, could deprive teachers of potentially useful information about children's abilities, which might be displayed at home in ways that were not observed in school. Conversely, parents who did not receive sufficient information from the school might lack knowledge of how to support their children's potential the giftedness and talent, or be less likely to support a referral to the Centre for the Gifted and Talented.

The second set of socio-cultural factors, related to beliefs and traditions, included social conservatism, resistance to some aspects of "science" perceived to come from outside (e.g. Western countries) and clash with local tradition, as well as fears that participation in the Gifted and Talented project might lead to children being exposed to influences and activities perceived as contrary to Islamic teachings. Some parents did not want their children to be identified as gifted and talented and actively discouraged them from displaying their ability, due to fear of attracting the "evil eye". It was also suggested that some parents did not cooperate with referral to the Centre for the Gifted and Talented because they rejected the notion of giftedness and talent as a Western innovation. Fear of innovation was also an outcome of rigid interpretations of Islam. As noted previously, Islam supports education and calls for people to achieve their potential, while recognising individual differences (see Chapter Two). However, participants reported fears that identification and nurturing of giftedness might lead to exposure to un-Islamic influences, for example, through science and technology. Religion was also perceived to play an inhibiting role in the identification of gifted and talented children, as the foundation of a didactic, teacher-centred style of education, which continued to influence pedagogical choices across the curriculum. This might constrain the opportunity for children to display their abilities and personal attributes in class, and these might, as a result, not be noticed by teachers.

It can be seen from the above discussion of the research questions that the research has uncovered a wide range of factors perceived to pose challenges to the identification of gifted and talented children in the selected region of Saudi Arabia. In doing so, it contributes to knowledge in ways which are highlighted next.

7.4 Contributions and Implications of the Study

This exploration of the perceived challenges to the identification of gifted and talented children in the selected region makes several contributions to knowledge. It extends the understanding of giftedness and talent, and their identification in a developing country context with a very different culture and educational history from the Western context where theories of giftedness and talent originated, and which have been the focus of much writing on giftedness and talent. In this way, it offers new insights into the role of multiple, interacting factors in influencing the way the identification of gifted and talented children is understood and practised. In particular, drawing on the insights from the literature review in Chapter Three, supported by the empirical evidence reported in Chapter Five and discussed in Chapter Six, it highlights the role of culture in influencing the conceptualisation of giftedness and talent, policy, structural elements of the educational system and pedagogical choices. These in turn, influence the opportunity for children to develop their gifts and talents and determine the areas of performance through which abilities can be manifested and recognised, with consequent implications for the selection of appropriate methods and procedures of identification. In this section, therefore, the conceptual model presented in Chapter Three is revisited in section 7.4.1, and a revised model offered, which incorporates the new, theoretical insights from this study; then in section 7.4.2, the practical implications derived from the study are highlighted.

7.4.1 Theoretical Contributions and Implications

The concept of giftedness and talent is a complex and controversial one, and theories abound that attempt to define what giftedness and talent are, what factors influence their development and how various kinds of ability can be measured or identified. Such theories, however, have been developed predominantly in Western contexts. Nevertheless, it was suggested in Chapter Three that the notions of giftedness and talent are to some extent, culture-specific. This study, conducted in the under-researched and culturally distinctive context of Saudi Arabia, highlights the influence of culture in every aspect of the meanings and practices around giftedness and talent and, hence, the importance of viewing them through a culturally-sensitive lens. With this in mind, in this section, the theoretical contributions of this study are presented in the form of a model (Figure 9), building on the initial framework offered in Chapter Three, but expanded and enhanced in the light of the research findings. The purpose of the model is twofold: to summarise the main theoretical insights from the research and to

illustrate the wider applicability of a culturally sensitive approach to defining and identifying giftedness and talent.

Chapter Three of this thesis began by discussing definitions of giftedness and talent. It was noted that Saudi Arabia has officially adopted a definition very similar to that of Marland (1972) and the more recent definition by Sternberg and Zhang (2004). Then, following a review of theories, the theories of Renzulli (1986) and Sternberg (1993, 2003) were taken as a starting point for recognising giftedness and talent as multi-faceted and as influenced by the environment, although the nature and components of this environmental influence were not specified in detail. The insights gained during this research, however, led to a modification of those initial insights in two ways: by problematising the definition of giftedness and talent and by recognising a variety of specific environmental influences, encompassed by the key notions of "culture" and "policy" that influence not only the identification of giftedness and talent (as suggested by previous Saudi writers) but also understandings of giftedness and talent, and the way they are manifested.

Although not the main focus of the study, the research contributes to debate on the definition and conceptualisation of giftedness and talent, to the extent it pertains to identification of gifted and talented boys in a Saudi Arabian city, by drawing attention to controversies in the literature and demonstrating, with evidence from a Saudi case study, how the prevailing confusion influences practice. The literature in Chapter Three revealed the great variety of terminology used to capture the ideas of giftedness and talent. It also presented various definitions and understandings not only from, for example, UK and US contexts, but also non-Western contexts, which reflect different views of what giftedness and talent are and the areas in which they may be manifested (for example, distinctions between 'pure' and 'applied' or 'academic' and 'practical' fields). It was later shown in the findings chapter (Chapter Five) that in the Saudi context, the government has tried to base the gifted education programme on a local (Islamic) rationale, while also drawing on Western definitions and criteria – the resulting incomplete or inconsistent conceptualisations in policy contribute to uncertainties and confusion about practice, with teachers being unsure what is being assessed and, hence, how they fit into that process. In particular, as noted in the previous section, the study highlights the failure to distinguish, theoretically and practically, between the identification and education of gifted and talented children, reflected in Ministry of Education documents and previous Saudi literature, as well as in participants' interview responses. The present research, by revealing the prevailing confusion about these matters in the Saudi

context, demonstrates the importance of having both a clear definition of giftedness and talent to guide the choice and use of appropriate identification processes, and the need to make a clear distinction between identification and provision, each with its own timing and practices, and to clarify who is responsible for each.

More particularly, the research also contributes to a more balanced and complete understanding of the complexities, cultural and political, around identification issues, as illustrated by the Saudi context. This is reflected in significant differences between the initial model proposed in Chapter Three (94) and the revised model presented here. It can be seen that in Figure 9, the simple, almost linear framework, assumed in Chapter Three, has become more complex. While the basic sequence of ability, performance and identification remains at the core (as shown by the rectangles in the centre row), the new model identifies influencing factors not previously identified, highlights the connections among the various sources of challenge, and relates the challenging factors to separate stages of the identification process where their impact appears.

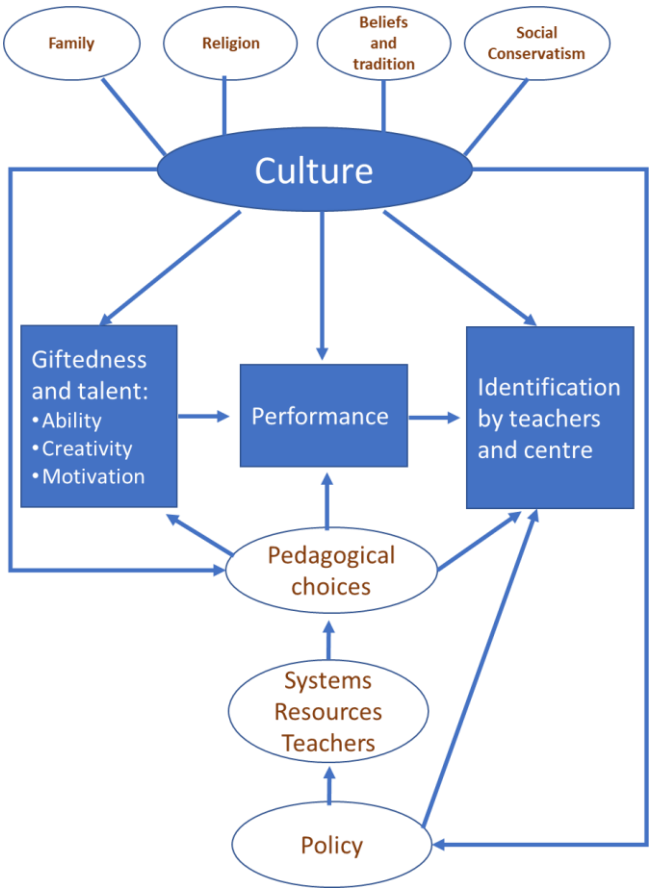

Figure 9: Process and sources of challenges in the identification of gifted and talented children in the selected site

Previous Saudi authors have addressed one or more areas of challenge (policy, system, pedagogy, culture) but not specifically in relation to their implications for identification of gifted and talented children, and often without empirical evidence, This study supports the claims of previous authors that these four factors challenge the gifted education project (Aleisa, 2009; Al-Qarni 2010; Al-Makhlid, 2012; Al-Qarni, 2012; Alamer, 2014), but also substantially develops these insights in several ways. In perhaps the most significant departure from the earlier model (Figure 7), the model in Figure 9 recognises the dominant effect of culture, shown by its overarching position in the large ellipse at the top of the figure. Cultural issues have been found to influence the giftedness and talent identification process both directly (by influencing what abilities are accepted and valued in society, shaping the kinds of performance that are possible and influencing cooperation with identification procedures) but also indirectly, through influences on education policy and pedagogical choices. Government policy, in turn, emerges as the second most important factor, since the government not only oversees the gifted education project and sets rules and criteria for its implementation, but also controls the institutional structure of the whole education system, in turn contributing to the pedagogical choices seen as feasible, given the resources, teachers, and skills available. The recognition of such linkages allows a more complex and detailed explanation of how various factors challenge the identification process.

The model shows, for instance, how pedagogy is constrained by policy, system and cultural issues, avoiding the simplistic approach of authors who have, for example, simply blamed teachers' incompetence or lack of commitment (see Chapter Three, Section 3.6). The model also offers a more nuanced understanding of the elements comprising each factor in the Saudi context. For example, while previous authors have tended to interpret 'culture' as 'religion', this study also identifies a set of family circumstances, attitudes and practices that are perceived to influence children's opportunity to develop their abilities and in turn be identified as gifted and talented. It also distinguishes economic (resource and budget) issues as a distinct subset of the education system-related challenges (in turn influenced by policy) which could influence pedagogical choices (and hence, opportunities for children to develop and display certain kinds of ability).

Moreover, as illustrated in Figure 9, the study reveals that policy, system, pedagogy and socio-cultural factors, and their component elements also challenge identification in different ways and at different stages of the process, for example:

- by influencing children's opportunity to develop and display gifts and talents;
- by influencing the procedures used for identification of gifted and talented children in schools;
- by influencing parents' and children's responses to teachers' nominations (and hence to the likelihood of the child attending the Centre for further testing).

In light of these insights, as compared to the study's conceptual model (shown in Section 3.7) Figure 9 illustrates the identification process found in the Saudi context, and the challenging factors involved in the process, based on the more detailed understanding emerging from this study.

It can be seen that, as in the earlier model, giftedness and talent, in the selected context, were seen as comprising creativity, motivation and ability, consistent with Renzulli (1986). This is evident in government documents (Ministry of Education, 2007), and interviews (Sections 5.3.2.4 and 5.3.3.1). However, participants were rather unsure about the nature of the 'ability'. Culture (in particular, family) and pedagogical choices represent two important aspects of the child's environment, which the findings suggested could influence the child's ability to develop and display gifts and talents; the latter would also influence the child's opportunity for performance, as shown by the connecting arrow between these rectangles. However, pedagogical choices, in turn, are influenced by systemic factors, including resources (e.g., availability of computers, sports facilities, etc., 5.3.2.2) and teachers – their training, qualifications, expertise and the pressures they face (5.3.2.1). The child's performance may lead to identification as gifted and talented by the teacher. However, this process is influenced by pedagogical choices, as shown by the connecting arrow. In particular, whereas the conceptual framework in Chapter Three, based on the literature, assumed multiple, varied assessment criteria and methods, the evidence from participants was that in the selected site, teachers rely almost solely on achievement tests. Teacher nomination is, however, only the first stage of the identification of gifted and talented children in the Saudi context. This is followed by referral to the Centre for the Gifted and Talented, which carries out its own identification procedures. The roles of the schools and the Centre in the identification of gifted and talented children are determined by government policy, including the institutional structure set out by the Ministry of Education (2004) and subsequent implementation rules (Ministry of Education, 2006) – see Chapter Five, Section 5.2. This influence of policy, which includes unclear and inconsistent definitions of giftedness and

talent, and identification criteria (5.2, and 5.3.3.1) is shown by the connecting arrows. The second step in identification, at the Centre, however, depends on parents' willingness to allow their children to be referred and to attend the Centre. At this point, again, culture comes into play, since parents' agreement depends on their attitudes towards cultural factors, shown to include social conservatism, beliefs towards science versus tradition, and religion (see 5.3.4.2, 5.3.4.3, and 5.3.4.4, respectively). Moreover, participants thought religion, as an aspect of culture, also had an influence on earlier stages in the process, shown by the arrow connecting culture to Pedagogical choices reflecting the dominance of didactic teacher centred instruction and reliance on rote learning and memorization (see 5.3.4.4) .

Thus, overall, compared with the initial model proposed in Chapter Three, this revised model better captures the complexities and challenges of the process of the identification of gifted and talented boys, as perceived in the selected context. The investigation of teachers', policy makers', and parents' thinking and experiences around the identification of gifted and talented boys has helped to show the influence of structural factors in the education system, and of cultural norms and values, in shaping notions of giftedness and talent, as well as the way the identification of gifted and talented boys is carried out. Moreover, in addition to capturing the insights derived from the identification of gifted and talented boys in the selected Saudi city, the model potentially has wider applicability.

Although this limited case study is not generalisable, the findings may, on the principle of transferability (see Chapter Four) draw attention to the potential value of further consideration of such factors, in order to develop context-specific understandings of giftedness and talent, and the identification of these. The specifics of education policy, systems, pedagogy and socio-cultural factors will differ from place to place, as will their relative salience and the nature and manner of their influence on the way giftedness and talent are understood and the practices adopted to identify and nurture gifted and talented children. Thus, the theoretical contribution of this study is not so much a "universal" model, but as a demonstration of the complexity of identifying multi-faceted gifts and talents, and the need for and importance of context-specific, culturally sensitive perspectives as to what giftedness and talent may mean. A model of giftedness and talent that views the subject through a culturally-specific lens and, in turn, the exploration of salient factors applicable in a given context, would, moreover, have significant practical implications, including the potential to contribute to the improvement of teacher education on the identification of such children. This and other practical implications of the research are addressed in the next sub-section.

7.4.2 Practical Contributions and Implications

Based on earlier discussions of the specifics of the research context (Chapter 2) with its cultural and educational distinctiveness, and bearing in mind the limitations of this small case study (see Section 7.5), it would not be appropriate to make recommendations for 'best practice' in the identification of gifted and talented children based on Western models, or even on the culturally-specific evidence of this study. Instead, the practical contribution of this study is to draw attention to tensions and confusions revealed in the research setting, which may merit further consideration of their implications.

As indicated in Chapters One and Two, the Ministry of Education in Saudi Arabia has expressed interest in the identification of gifted and talented children and instructed schools and Centres for the Gifted and Talented to perform this role. However, it has given little guidance to what the concept of giftedness and talent means, leaving schools, in particular, somewhat confused about how to implement the policy. Since the Saudi education system is highly centralised and hierarchical, the Ministry of Education would have to take the lead in any future developments in this area.

In the light of the perceptions expressed by participants in the study (even though confined to a few schools and one Centre in one region), the Ministry may wish to consider a review of education policy (where the gifted and talented project has been added onto a policy largely unchanged since the 1970s. It might be appropriate at this point to consider whether the existing structure, culture and practices within the education system are actually conducive to the identification of gifted and talented children.

In particular, the levels of confusion and anxiety displayed by teachers, and their perceptions that they are not well prepared for their role, suggest the important role that could be played by pre- and in-service training of teachers, as a basic part of the process of the identification of gifted and talented children. In-service training could be particularly important where some teachers may have had little training for teaching in general, let alone for giftedness and talent. This would be important, not only for teachers being transferred to gifted education, but also for general teachers, who may be the first professionals to notice the signs of giftedness and talent in children. The fact that a lack of such training was reported by teachers in the schools visited suggests that some teachers are struggling to perform roles for which they are not prepared, and if this is the case in a few schools in the region, it is at least possible that there may be a wider problem to be investigated through a systematic training

needs assessment. The study implies, moreover, that teacher training could be improved by the incorporation of a culturally-sensitive model of giftedness and talent. Teachers in this study differed in their understandings of giftedness and talent, and in some cases appeared to have difficulty in reconciling their understandings, based on Western-inspired definitions and policies, with practices rooted in a different pedagogical culture and with the norms and values embedded in the local culture. A culturally-sensitive model of giftedness and talent would allow a more flexible interpretation of what might constitute giftedness and talent in a particular context, of the various ways such abilities might be identified and nurtured, and of how teachers might best support not only gifted and talented pupils themselves, but also their families.

In the meantime, a possible helpful measure might be the preparation of teachers' resources, such as a handbook on the identification of gifted and talented children; not merely a list of regulations and rules (which already exists) but information on some theories of giftedness and talent, and clearly set out directions and criteria for the identification process. It is also worth drawing attention to the perceptions that many cultural attitudes prevalent in society are not supportive for the gifted and talented – to such an extent that some participants questioned whether Saudi Arabia is ready for such a project. It is not possible to say at this stage how widespread or typical such attitudes are, and there may be differences among regions related to different levels of education or exposure to other influences, for example. Nevertheless, the indications here highlighted the importance of community awareness and support in undertaking such a project, and thus might invite further consideration of how the project is presented to the wider society, and whether or how steps might be taken to raise awareness of the project and win support. In this area, too, sensitivity to context and culture is paramount. It was suggested in Chapter Two that the government's reforms of education have met with resistance in some quarters. Moreover, the findings in Chapter Five revealed that the gifted education project is faced with a lack of cooperation related, in part, to perceived clashes with deeply rooted cultural beliefs and values. Moreover, some parents did not recognise their children as gifted, perhaps because the abilities valued at school were not those valued at home. As shown in the discussion of cultural perspectives of giftedness and talent in Chapter Three, conceptualisations of giftedness and talent that ignore or conflict with local cultural values and sensitivities are unlikely to be accepted. Cooperation and support for the gifted education project might best be achieved, therefore, not by imposing what are perceived as alien ideas and practices, but by considering how best to invoke and

harness culturally-appropriate values in explaining the project's purpose and intended benefits, for the individuals concerned, and for the wider society.

7.5 Limitations of the Research

Like any research, this study has several limitations arising out of time and resource constraints, which mean that its findings must be viewed with caution. These limitations are related to the research focus and context, the sampling of schools and participants, and the data collection methods. First, with regard to the research focus and context, this study was confined to the primary stage of education, and to a single selected region. The primary stage is of special interest due to the importance of early identification of children's giftedness and talent for the sake of providing appropriate educational opportunities, while at the same time presenting challenges since fewer measurement tools are designed for younger children (Winan & Sandhu, 2004; Aljughaiman & Ibrahim, 2009).Nevertheless, it was suggested in the literature review that identification should be an on-going process (Sternberg, 2004). It is possible that the identification of gifted and talented children in later school stages may present different challenges because of differences in the curricular opportunities for older children, or different instruments and procedures for identification. Moreover, the focus on a single region of Saudi Arabia is a limitation because it is not known how typical the selected site is. Indeed, there may not be a 'typical' region, as, although all regions of Saudi Arabia are subject to the same MoE policies and share the same Islamic culture, they may differ in such factors as the number of Centres for the Gifted and Talented, the numbers of qualified and specialist teachers, and the socio-economic conditions. This would limit the generalisabilty of the findings; however, generalisation is not the purpose of the study. Rather, the aim was to explore an issue that has so far received little attention.

With regard to sampling limitations, this study was confined to boys' schools, due to the constraints imposed by Saudi culture. Thus, this study explores the identification of gifted and talented boys. Girls' schools may face somewhat different challenges, especially as some researchers have suggested that girls are less interested in the subjects targeted by Saudi gifted education policy: science, maths, and technology (Aljabri & Alahmadi, 2012) and participants in this study thought that girls were more likely than boys to be kept out of school.

In addition to being limited by gender, the sample of schools was also small. The schools chosen varied in their characteristics, and the sample provides evidence that the reported

conditions and perceptions exist in at least some schools, but it is not possible to draw inferences about how typical or prevalent these are across the region.

The sample was also particularly limited in access to the parents' perspective, and the two parents who participated were not typical, being educated, professional people. This reflects the difficulty of research in a culture where many people, especially the less educated, are uncomfortable with the concept of giftedness and talent and where norms of secretiveness about family matters are deeply embedded.

Other limitations are related to the data collection methods used. The decision to use solely qualitative methods was beneficial for exploring participants' beliefs and perceptions. However, if it had been available, precise quantitative data on numbers of children in the region, the proportion identified as gifted and talented, and the proportion of nominees rejected by the project for identification of gifted and talented children, would have been useful. In addition, the research notes used in this study were employed only to give context, rather than as major sources of evidence in their own right. The use of other data collection methods might have presented a somewhat different picture. Suggestions for future research to overcome the above limitations and to build on the contributions of this study follow.

7.6 Suggestions for Further Research

In view of the limitations acknowledged above, there is scope in future research to complement the present findings with insights from wider samples, or obtained by other methods. Moreover, there are findings that could be explored further in follow-up studies. Some suggestions for future research directions are as follows.

First of all, in order to overcome the limitations of the research context in this study, future researchers could explore the identification of gifted and talented children across other Saudi regions, either singly or in comparative studies, in order to verify how typical and widespread the situation described here may be. It would also be of interest to explore the challenges faced in identifying giftedness and talent in older children, at the intermediate and secondary school stages. Research should also be conducted in girls' schools. This would require a female researcher to gain access to the schools. Nevertheless, by coordination of research projects at the level of regional education departments, it might be possible to collate and compare data on both boys and girls. Other projects might compare between public and private schools or focus in more detail on the role of the Centres for the Gifted and Talented,

in order to expand on the picture of the project for identifying gifted and talented children offered in this study.

Despite its limitations, this study has raised some interesting and potentially important issues that deserve further investigation. For example, there are indications of discrepancies between policies and practices in the identification of gifted and talented children, which seems surprising in view of the centralised nature of the Saudi education system. The extent and reasons for such discrepancies could be explored further.

Another finding concerned the difficulty for teachers of playing their assigned role in the gifted and talented project, as a result of having little or no relevant training in initial teacher preparation or in-service programmes. Teachers' knowledge, competences, attitudes and training needs in this respect would be worth studying. An extension of this research direction would be a longitudinal study to develop a training intervention for primary school teachers recruited to the gifted and talented identification and development project, and evaluate its impact on teachers' skills and confidence in identifying gifted and talented children.

As a final suggestion, researchers might follow up the claims of some participants that socio-cultural factors in Saudi Arabia are not yet conducive to achieving the aims of the gifted and talented project. Such a study might include a wider set of perspectives than those reflected in this study, such as those of universities and research foundations that recruit students who have been identified as gifted, businesses that might employ such students, and religious and community leaders, whose views may provide insight into the claims of social conservatism made by participants in this study.

These are by no means the only directions that could be taken by future research, but simply a few starting points. The present study has explored and opened the field of identification of gifted and talented children in the distinctive context of Saudi Arabia. By pursuing the above suggestions, future researchers can contribute to understanding in this area, which may not only enrich theory, but also contribute to the development of policy and practice, for the benefit of KSA, and of the children themselves.

7.7 Concluding Remarks

This study has taken a step towards filling gaps in the literature on the identification of gifted and talented children in a non-Western, developing country context. In particular, it adds to

the scarce Saudi literature, which has not so far addressed identification as a distinct topic. The study, although limited in scope, provides interesting insights into the complex ways in which policy, systemic, pedagogical and socio-cultural factors may challenge efforts to identify gifted and talented children. The researcher hopes that these insights may encourage further research to develop context-specific understandings of giftedness and talent, as a step towards identifying and nurturing gifted and talented children, for their own fulfilment, and for the benefit of the countries concerned.

References

Aboalfaraj, H. S. (2004) *Teachers' performance in secondary schools for girls in Jeddah city. KSA*. PhD thesis. University of Manchester.

Abu Alkhale, Y. (2014) Development of teaching: converting from lecturing style to thinking style. *Al Riyadh*, 7 June [Online]. Available at: http://www.alriyadh.com/942093 [Accessed 17/10/2016].

Adel, G. H., Elmi, M. J. & Taromi-Rad, H. (2012) *Education in Islamic civilization: an entry from encyclopaedia of the world of Islam.* London: Ewi Press.

Al-AbdulKareem, S. A. (2004) *Investigating science teachers' beliefs about science and science teaching: struggles in implementing science education reform in Saudi Arabia.* Virginia: University of Virginia.

Al-Agla, A. (2001) *Introducing computer supported co-operative learning to the curriculum of Islamic Studies and Arabic Language institute for Non-Arabic speakers: teachers' perceptions, students' responses and administrations' views*. PhD thesis. University of Hull.

Al-Garni, A. (2012) *Attitudes of future special education teachers toward gifted students and their education.* PhD thesis. Queensland University of Technology.

Al-Gathami, A. (2009) *Tribe and tribalism or the identities of the postmodern*. Casablanca: The Centre for Arabic Culture.

Al-Ghamdi, H. A. (2007) The obstacles facing gifted students in basic education (In Arabic). *Almarefah Magazine*, 138, 148.

Al-Hogail S. (2003) *The law and strategies of learning in Saudi Arabia* (In Arabic). Riyadh: Alroshed.

Al-Lawat, F. A. (2007) *Differentiation for the gifted in American Islamic schools*. New York: McMillan.

Al-Magid, A. (2003) All of them gifted. *Almarefah Journal*, 128, 128-129.

Al-Makhalid, K. A. (2012) *Primary teachers' attitudes and knowledge regarding gifted pupils and their education in the Kingdom of Saudi Arabia.* PhD thesis. University of Manchester.

Al-Muslat, Z. A. (1994) The history of deaf education in the Kingdom of Saudi Arabia. In Erting, C. J., Johnson, R. C., Smith, D. L. & Snider B. D. (eds) *The deaf way: perspectives from the international conference on deaf culture*. Washington, D.C: Gallaudet University, 275-282.

Al-Nafie, A. (2001) *The Saudi experiement of talent discovery*. Riyadh: King Abdullah City for Science and Technology.

Al-Nafaa, A. (2000) *Saudi Arabia's experience in the care of gifted students.* Amman: The Arab Council for Gifted and Talented.

Al-Qarni, M. A. A. (2010) *Evaluation of provisions for gifted students in Saudi Arabia*. PhD thesis. University of Woolangong.

Al-Saqran, R. (2011) Developed curriculum and week teacher. *Al Riyadh*, 10 September [Online]. Available at: http://www.alriyadh.com/666143 [Accessed 15/02/2017].

Al-Sarbla, M., Al-Khateeb,M., Motaly, M. & Abduljawad, N. (2004) *System of education in Kingdom of Saudi Arabia* (In Arabic), Riyadh: Dar Alkhoreji.

Al-Shabi, M. (2013) UML modeling for general educational services in KSA integrated with GIS. *International Journal of Computer Science Issues*, 10(2), 272-279.

Al-Shehri, M., Al-Zoubi, S. & Bani Abdel Rahman, M. (2011) The effectiveness of gifted students centers in developing geometric thinking. *Educational Research*, 2(11), 1676-1684.

Al-Wasruh, A. N. (2005) *Gifted care reality and expectations*. Riyadh: First Scientific Meeting about the Gifted and Talented Care.

Al-Zoubi, S. & Abdel- Rahman, M. (2011) The Effectiveness of centres for the gifted and talented as perceived by gifted students. *Arab Journal for Talent Development*, 2(2), 61-82.

Alamer, S. (2010) *Views of giftedness: the perceptions of teachers and parents regarding the traits of gifted children in Saudi Arabia*. PhD thesis. Monash University.

Alamer, S. M. (2014) Challenges facing gifted students in Saudi Arabia. *Research on Humanities and Social Sciences*, 4(24), 107-112.

Alamer, S. M. (2015) Cultural perspectives of associating music with the giftedness in Saudi Arabia. *Canadian Social Science*, 11(2), 8-15.

Albuhairi, S. S. A. (2015) *Preliminary factors necessary for effective implementation of cooperative learning, and their prevalence in cooperative learning practice in Saudi Arabia*. PhD thesis. The University of Hull.

Aldimiati, A. (2004) Validating Johnson scale for identifying gifted in the Saudi environment. *The Academy for the Special Education Journal*, 4, 93-158.

Aleisa, A. (2009) *Education reform in Saudi Arabia* (in Arabic). Lebanon: Dar Alsaqi.

Alfahaid, S. S. (2002) *A study of gifted education in Saudi Arabia: teachers' and administrators' attitudes and the impact of the gifted identification training program.* Pennsylvania: The Pennsylvania State University.

Algarfi, A. (2010) *Teachers' and pupils' perceptions of and responses to cooperative learning methods within the Islamic culture courses in one secondary school in Saudi Arabia.* PhD thesis. University of Southampton.

Alhamd, M. Alotaibi, B., Motoally, N. & Zyadah, M. (2004) *Education in Saudi Arabia* (in Arabic). Riyadh: Alroshd Press.

Alhammed, M., Zeadah, M., Alotaiby, B. & Motawaly, N. (2004) *The learning in Saudi Arabia: sight of the present and preparing for future*. Riyadh: Alroshed.

Alhodithy, A. I. R. (2009) *Exploring cooperative and psychological approaches to learning in the Saudi Arabia school system*. PhD thesis. University of Exeter.

Aljabri, N. R. & Alahmadi, A. S. (2012) Determinants of academic tracking in girls' high schools in Saudi Arabia. *37th Annual Conference of the Association for Education Finance and Policy*. Boston: USA.

Aljughaiman, A. (2004) *Welfare of the gifted*. Available online: http://www.gulfkids.com/pdf/Barnamj_Raea_Moh.pdf [Accessed 12-9-2016].

Aljughaiman, A. M., Majiney, O. & Barakat, A. (2012) The role of Oasis Enrichment Model in developing general classroom performance, thinking and research skills of gifted students in Saudi public education schools. *Journal of Social Sciences*, 12, 76-99.

Aljughaiman, A. M & Maajeny, U. (2013) Evaluation of the gifted program in general education schools according to quality standards of enrichment programs. *Journal of Educational and Psychological Sciences*, 14(1), 217-245.

Aljughaiman, A. M. & Grigorenko, E. L. (2013) Growing up under pressure: the cultural and religious context of the Saudi system of gifted education. *Journal for Education of the Gifted*, 36(3), 307-322.

Aljughaiman, A. M. & Ibrahim, M. U. (2009) Development and validating a behavioural characteristics rating scale of kindergarten gifted children in Saudi Arabia. *Asia-Pacific Journal of Gifted and Talented Education*, 1(1), 87-103.

Allix, N. M. (2000) The theory of multiple intelligences: a case of missing cognitive matter. *Australian Journal of Education*, 44(3), 272-272.

Almeida, L. S., Prieto, L. P., Ferrando, M., Oliveira, E. & Ferrándiz, C. (2008) Torrance test of creative thinking: the question of its construct validity. *Thinking Skills and Creativity*, 3(1), 53-58.

Alnafi, A Alkatie, A., Aldobaiban, S., Alhazmy, M. & Alseleem, A. (2000) *The programs of identifying and nurturing the gifted*. Riyadh: King Abdulaziz City for Science and Technology.

Alnahdi, G. H. & Abdulaziz , S. B. (2014) Educational change in Saudi Arabia. *Journal of International Education Research*, 10(1), 1-6.

Alqefari, A. (2010) *A study of programmes for gifted students in the Kingdom of Saudi Arabia*. PhD thesis. Brunel University.

Alshahrani, S. A. & Alsadiq, A. J. (2014) Economic growth and government spending in Saudi Arabia: an empirical investigation. *IMF Working Paper*, 14(3), 1-26.

Altayar, B. (2003) *Problems in teaching*. King Saud University: Saudi Arabia.

Alyami, R. H. (2014) Educational reform in the Kingdom of Saudi Arabia: Tatweer schools as a unit of development. *Literacy Information and Computer Education Journal*, 5(2), 1424-1433.

Alzaidi, A. M. (2008) Secondary school head teachers' job satisfaction in Saudi Arabia: the results of a mixed methods approach. *Annual Review of Education, Communication, and Language Sciences*, 5, 161-185.

Amabile, T. M. (1982) Social psychology of creativity: a consensual assessment technique. *Journal of Personality and Social Psychology*, 43(5), 997-1013.

Amabile, T. M. (1996) *Creativity in context: update to the social psychology of creativity*. Boulder CO: Westview.

Ambrose, D., Sternberg, R. & Sriraman, B. (Eds.) (2012) Introduction. In Ambrose, D., Sternberg, R. & Sriraman, B. (Eds.) *Confronting dogmatism in gifted education*. New York: Taylor & Francis, 4-11.

Ames, C. (1992) Classrooms: goals, structures, and student motivation. *Journal of Educational Psychology*, 84, 261-271.

Anderson, G. (1998) *Fundamentals of educational research*. London: Taylor & Francis.

Ararat International (2012) *Saudi Arabia*. Available online: http://araratinternational.com>aaudi-arabia [Accessed 20/02/2017].

Atkinson, P. & Coffley, A. (2011) Analysing documentary realities. In Silverman, D. (ed.) *Qualitative research: issues of theory, method and practice*, 3rd edition. London: Sage, 77-92.

Arroyo, C. G. & Zigler, E. (1995) Racial identity, academic achievement, and the psychological well-being of economically disadvantaged adolescents. *Journal of Personality and Social Psychology*, 69(5), 203-214

Banister, P. (2011) *Qualitative methods in psychology: a research guide*. London: McGraw-Hill Education.

Barchard, K. A. (2003) Does emotional intelligence assist in the prediction of academic success? *Educational and Psychological Measurement*, 63(5), 840-858.

Basit, T. (2003) Manual or electronic? The role of coding in qualitative data analysis. *Educational Research*, 45(2), 143-154.

Bazeley, P. & Jackson, K. (2013) *Qualitative data analysis with Nvivo*. London: Sage.

BERA (2011) *Ethical guidelines for educational research*. London: British Educational Research Association. Available online: http://www.bera.ac.uk/files/2011/08/BERA-Ethical-Guidelines-2011.pdf. [Accessed 23/09/2016]

Besançon, M., Lubart, T. & Barbot, B. (2013) Creative giftedness and educational opportunities. *Educational & Child Psychology*, 30(2), 79-88.

Birch, J. (2004) Is any identification procedure necessary? In Renzulli, J. (ed.) *Identification of students for gifted and talented programmes.* Thousand Oaks: Corwin Press, 1-16.

Birkinshaw, J., Brannen, M. Y. & Tung, R. L. (2011) From a distance and generalizable to up close and grounded: Reclaiming a place for qualitative methods in international business research. *Journal of International Business Studies*, 42(5), 573-581.

Blaikie, N. (1993) *Approaches to social enquiry: advancing knowledge*. Cambridge: Polity Press.

Bogdan, R. & Biklen, S. (2007) *Qualitative research for education: an introduction to theory and practice,* 5th edition. New York: Pearson Education.

Bondagjy, M. (2000) *The differentiation of the mathematics curriculum for mathematically able pupils in primary school.* Newcastle: The University of Newcastle.

Booz & Co. (2010) Women's education in Saudi Arabia: the way forward. Available online: http://www.ideationcenter.com/media/fie/ Woemen's_Education in_Saudi Arabia_Advance_Look_FINALv9-pdf [Accessed 23/02/2016].

Borland, J. (2005) Gifted education without gifted children: the case for no conception of giftedness. In Sternberg, R. J. & Davidson J. E. (eds) *Conceptions of giftedness*, 2nd edition. Cambridge: Cambridge University Press, 1-19.

Borland, J. (2009) The gifted constitute 3% to 5% of the population. Moreover, giftedness equals high IQ, which is a stable measure of aptitude: spinal tap psychometrics in gifted education. *Gifted Child Quarterly*, 53, 236–238.

Borland, J. H. (2010). You can't teach an old dogmatist new tricks: dogmatism and gifted education. In Ambrose, D., Sternberg, R. & Sriraman, B. (Eds.) *Confronting dogmatism in gifted education*. New York: Taylor & Francis, 11-14.

Borland, J. H. (2012). You can't teach an old dogmatist new tricks: dogmatism and gifted education. In: D. Ambrose, R.J. Sternberg and B. Sriraman (Eds.) *Confronting dogmatism in gifted education*. London: Routledge, Francis, 11-24.

Bowen, W. H. (2008) *The history of Saudi Arabia*. Connecticut: Westport.

Boyatzis, R. E., Goleman, D. & Rhee, K. (2000) Clustering competence in emotional intelligence: insights from the emotional competence inventory (ECI). In Bar-On, R. & Parker, J. D. A. (eds.) *Handbook of emotional intelligence*. San Francisco: Jossey Bass, 343-362.

Brackett, M. A. & Mayer, J. D. (2003) Convergent, discriminant, and incremental validity of competing measures of emotional intelligence. *Personality and Social Psychology Bulletin*, 29(9), 1147-1158.

Brady, M. (2015) *An exploration of the impact of gifted and talented policies on inner city schools in England: a case study*. PhD thesis. Brunel University.

Braun, V. & Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.

Brody, L. & Stanley, J. (2005) Youths who reason exceptionally well mathematically and or verbally. In Sternberg, R. J. & Davidson J. E. (eds) *Conceptions of giftedness*, 2nd edition. Cambridge: Cambridge University Press, 20-37.

Brophy, J. (2005) Goal theorists should move on from performance goals. *Educational Psychologist*, 40(3), 167-176.

Brown, S. W., Renzulli, J. S., Gubbins, E. J., Siegle, D., Zhang, W. & Chen, C. H. (2005) Assumptions underlying the identification of gifted and talented students. *Gifted Child Quarterly*, 49(1), 68-79.

Bryman, A. (2012) *Social research methods*, 4th edition. Oxford: Oxford University Press.

Bryman, A., & Bell, E. (2015) *Business research methods*, 3rd edition. New York: Oxford University Press.

Budari, N. & Bahebery, M. (2010) *Saudi Arabia experience of gifted education.* Riyadh: Ministry of Education in Saudi Arabia.

Bushnak, B. A. (2007) *Teacher Training Programs for Gifted Education in Saudi Arabia* [Lecture]. Institute of Education, University of London.

Callahan, C. M. & Miller, E. M. (2005) A child-responsive model of giftedness. In Sternberg, R. J. & Davidson J. E. (eds) *Conceptions of giftedness*, 2nd edition. Cambridge: Cambridge University Press, 38-51.

Caruso, D. R., (2008) *All About the Mayer-Salovney-Caruso Emotional Intelligence Test (MSCEIT).* Available online: Http://Www.Rossresults.Com/Library/Msceit_White_Paper.Pdf [Accessed 28/10/2016].

Casey, R. & Koshy, V. (2002) Submerged talent and world class recognition. In Richardson, C. (ed) *Assessing gifted and talented children*. London: Qualifications and Curriculum Authority, 87- 10.

Casey, R. & Koshy, V. (2006) Submerged talent in inner cities: inclusion by intervention. In Smith, C. M. (ed) *Including the gifted and talented: making inclusion work for more gifted and able learners*. London: Routledge, 87-101.

Castellano, J. (2006) Bilingual education issues: Haitian and Haitian-American students in gifted education. In Wallace, B. & Eriksson, G. (Eds.) *Diversity in gifted education: international perspectives on global issues*. London: Routledge, 56-67.

CCEA (2006) *Gifted and talented children in (and out of) the classroom.* Belfast: Council of Curriculum, Examinations and Assessment.

Charmaz, K. & McMullen, L. M. (2011) *Five ways of doing qualitative analysis: phenomenological psychology, grounded theory, discourse analysis, narrative research, and intuitive inquiry.* London: Guilford Press.

Chart, H., Grigorenko, E. L. & Sternberg, R. J. (2008) Identification: the Aurora battery. In J. A. Plucker & C. M. Callahan (Eds.) *Critical issues and practices in gifted education*. Waco: Prufrock, 281-301.

Choi, I., Nisbett, R. E. & Norenzayan, A. (1999) Causal attribution across cultures: variation and universality. *Psychological Bulletin*, 125(1), 47-63.

CIA (2015) *World factbook: Saudi Arabia*. Available online: https://www.cia.gov.liabary/pupications/the_would_factbook/geos/sa-html [Accessed 11/07/2016].

Clark, B. (2002) *Growing up gifted: developing the potential of children at home and school*, 6th edition. Upper Saddle River: Merrill Prentice Hall.

Clark, B. (2006) International and comparative issues in educating gifted students. In Wallace B. & Eriksson, G. (Eds.) *Diversity in gifted education: International perspectives on global issues*. London: Routledge, 273-293.

Clark, M. (2012) *Obtaining authentic secondary credentials from Saudi Arabia*. World Education News and Reviews. Available online: http://www.wes-org/ewenr/izjan/feature-htm [Accessed 26/12/ 2016].

Claxton, G. & Meadows, S. (2009) Brightening up: how children learn to be gifted. In Balchin, T., Hymer, B. & Matthews D. J. (eds) *The Routledge international companion to gifted education.* London: Routledge, 3-9.

Cohen, L. M. & Ambrose, D. C. (eds) (1993) *Theories and practices for differentiated education for the gifted and talented*. New York: Pergamon.

Cohen, L., Manion, L. & Morrison, K. (2007) *Research methods in education*, 6th edition. London: Routledge.

Colangelo, N. & Davis, G. A. (2008) Introduction and overview. In Colangelo, N. & Davis, G. A. (eds) *Handbook of gifted education*, 3rd edition. Boston: Pearson Education, 3-10.

Coleman, M. R. (2003) *The identification of students who are gifted*. Washington: National Association for Gifted Children.

Coleman, M. D. (2013) Emotion and the ultimate attribution error. *Current Psychology*, 32(1), 71-81.

Collis, J. & Hussey, R. (2013) *Business research: a practical guide for undergraduate and postgraduate students*, 4th edition. London: Palgrave Macmillan.

Cordesman, A. H. (2003) *Saudi Arabia enters the twenty-first century: the political, foreign policy, and energy dimensions*. New York: Greenwood Publishing.

Covington, M. V. (2000) Goal theory, motivation, and school achievement: an integrative review. *Annual Review of Psychology*, 51(1), 171-200.

Crabtree, B. F. & Miller, W. L. (1999) Using code and code manuals: a template organizing style of interpretation. In Crabtree, B. F. & Miller, W. L. (eds) *Doing qualitative research*. London: Sage, 163-177.

Creswell, J. W. (2007) *Qualitative inquiry and research design: choosing among five approaches*, 2nd edition. London: Sage.

Creswell, J. W. (2013) *Research design: qualitative, quantitative, and mixed methods approaches.* London: Sage.

Creswell, J. W. & Miller, D. L. (2000) Determining validity in qualitative inquiry. *Theory into Practice*, 39(3), 124-130.

Crotty, M. (1998) *The foundations of social research: meaning and perspective in the research process*. London: Sage.

Csikszentmihalyi, M., Rathunde, K. & Whalen, S. (1997) *Talented teenagers: the roots of success and failure*. Cambridge: Cambridge University Press.

Csikszentmihalyi, M. & Wolfe, R. (2000) New conceptions and research approaches to creativity: implications of a systems perspective for creativity in education. In Heller, K. A., Monks, F. J., Sternberg, R. J. & Subotnik, R. F. (eds) *International handbook of giftedness and talents*, 2nd edition. New York: Pergamon, 81-94.

Dai, D. Y. & Schader, R. M. (2002) Decisions regarding music training: parental beliefs and values. *Gifted Child Quarterly*, 46, 135-144.

Daus, C. S. & Ashkanasy, N. M. (2013) *Will the real emotional intelligence please stand up? On deconstructing the emotional intelligence debate*. Available online: http://www.siop.org/tip/backissues/Oct03/16daus.aspx [Accessed 20/01/2017].

Davis, G. & Rimm, S. (2004) *Education of the gifted and talented*, 5th edition. Boston: Allyn & Bacon.

Denscombe, M. (2007) *The good research guide: for small-scale social research projects*, 3rd edition. Maidenhead: Open University Press.

DCSF (2008) *Effective provision for gifted and talented children in primary education.* Available online: http://www.gloucestershire.gov.uk/schoolsnet/CHttpHandler.ashx?id=46610&p=0 [Accessed 17/03/2016].

DCSF (2009) *Your child, your schools, our future: building a 21st century schools system*. London: The Stationery Office.

Denzin, N. K. & Lincoln, Y. S. (2005) *Handbook of qualitative research*, 3rd edition. Thousand Oaks: Sage.

DfES- Department for Education and Skills (2006) *National quality standards in education*. London: Department for Education and Skills.

Dweck, C. S. (2000) *Self-theories: their role in motivation, personality, and development*. New York: Psychology Press.

Easterby-Smith, M., Thorpe, R. & Jackson, P. R. (2012) *Management research*. London: Sage.

Elliot, A. J. & Church, M. A. (1997) A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, 72(1), 218-232.

Elliot, A. J. & Murayama, K. (2008) On the measurement of achievement goals: critique, illustration, and application. *Journal of Educational Psychology*, 100(3), 613-628.

Elliot, A. J., McGregor, H. A. & Thrash, T. M. (2002) *The need for competence*. New York: The University of Rochester Press.

Elyas, T. & Picard, M. (2010) Saudi Arabian educational history: Impacts on English language teaching. *Education, Business and Society: Contemporary Middle Eastern Issues*, 3(2), 136-145.

Ericsson, K.A., Krampe, R.T. & Tesch-Römer, C. (1993) The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100(3), 363-406.

Eriksson, G. (2006) Introduction. In Wallace, B. and Eriksson, G. (Eds.) *International perspectives on global issues*. London: Routledge, 1- 8.

Escobedo, P. S. (2013) *Talent development around the world.* Saarbrücken: Lambert Publishing.

Esquierdo, J. J. & Arreguín-Anderson, M. (2012) The "invisible" gifted and talented bilingual students: a current report on enrolment in GT programs. *Journal for the Education of the Gifted*, 35(1), 35-44.

Eyre, D. (1997) *Able children in ordinary schools*. London: David Fulton Publishers.

Eyre, D. (2001) An effective primary school for the gifted and talented. In Eyre, D. & McClure, L. (eds) *Curriculum provision for the gifted and talented in the primary school: English, maths, science, and ICT.* Abingdon: David Fulton Publishers, 1-27.

Feldhusen, J. F. (1999) *Talent identification and development in education: the basic tenets*. New York: Winslow Press.

Feldhusen, J. F. & Hoover, S. M. (1986) A conception of giftedness: intelligence, self-concept and motivation. *Roeper Review*, 8(3), 140-143.

Feldhusen, J. F. & Jarwan, F. A. (2000) Identification of gifted and talented youth for educational programs. In Heller, K. A., Monks, F. J., Sternberg, R. J. & Subotnik, R. F. (eds) *International handbook of giftedness and talents*, 2nd edition. New York: Pergamon, 271-282.

Fernández-Berrocal, P. & Extremera, N. (2006) Emotional intelligence: a theoretical and empirical review of its first 15 years of history. *Psicothema*, 18(suppl.), 7-12.

Fiedler, K. (2001) Affective states trigger processes. In Martin, L. & Clore, G. C. (eds) *Theories of mood and cognition: a user's guidebook*. Mahwah: Erlbaum, 85-98.

Fleming, E. S. & Hollinger, C. L. (1981) The multidimensionality of talent in adolescent young women. *Journal for the Education of the Gifted*, 4(3), 188-198.

Ford, D. Y. (2010) Underrepresentation of culturally different students in gifted education: Reflections about current problems and recommendations for the future. *Gifted Child Today*, 33, 31–35.

Foster, W. (1983) Self-concept, intimacy and the attainment of excellence. *Journal for the Education of the Gifted*, 6(1), 20-27.

Freeman, J. (1998) *Educating the very able: current international research*. London: Stationery Office.

Freeman, J. (2005) Permission to be gifted. In Sternberg, R. & Davidson, J. (eds) *Conceptions of giftedness.* Cambridge: Cambridge University Press, 80-97.

Gagné, F. (1985) Giftedness and talent: reexamining a reexamination of the definitions. *Gifted Child Quarterly*, 29(3), 103-112.

Gagné, F. (1995) From giftedness to talent: a developmental model and its impact on the language of the field. *Roeper Review*, 18(2), 103-111.

Gagné, F. (2000) *A differentiated model of giftedness and talent (DMGT).* Available online: http://www.curriculumsupport.education.nsw.gov.au/ policies/gats/assets/pdf/poldmgt2000rtcl.pdf [Accessed 20/06/2018].

Gagné, F. (2004) Transforming gifts into talents: the DMGT as a developmental theory 1. *High Ability Studies*, 15(2), 119-147.

Gagné, F. (2009) *Building gifts into talents: brief overview of the DMGT 2.0. Reaching forward… Achieving sustainability in gifted education*. National Conference on Gifted Education.

Galton, F. (1869) *Hereditary genius: an inquiry into its laws and consequences*. London: Macmillan.

Gardner, H, (1983) *Frames of mind: the theory of multiple intelligences*. New York: Basic Books.

Gardner, H. (1999) *Intelligence referral: multiple intelligences for the 21st century*. New York: Basic Books.

Gardner, J. (1985) The development of competence in culturally defined domains: a preliminary framework. In Shweder, R. A. & Levine, R. A. (eds) *Culture theory essays on mind, self and emotion*. Cambridge: Cambridge University Press, 257-275.

Gawronski, B. (2007) Fundamental attribution error. In Baumeister, R. F. & Vohs, K. D. (eds) *Encyclopedia of social psychology*. Thousand Oaks: Sage Publications, 367-369.

Geake, J. G., & Gross, M. U. (2008). Teachers' negative affect toward academically gifted students: an evolutionary psychological study. *Gifted Child Quarterly*, 52(3), 217-231.

Gifted Phoenix (2014) *Mawhiba: gifted education in Saudi Arabia (Part One).* Available Online: https://giftedphoenix.wordpress.com/2011/05/24/mawhiba-gifted-education-in-saudi-arabia-part-one/ [Accessed 20/12/2016].

Goleman, D. (1995) *Emotional intelligence*. New York: Bantam.

Goleman D. (2001a) *Emotional intelligence: issues in paradigm building*. San-Francisco: Jossey-Bass.

Goleman, D. (2001b) Emotional intelligence: perspectives of a theory of performance. In Goleman, D. & Cherniss, C. (eds.) *The emotionally intelligent workplace: how to select for, measure, and improve emotional intelligence in individuals, groups, and organizations*. San Francisco: Jossey-Bass.

Gottfredson, L. S. (2003) Dissecting practical intelligence theory: its claims and evidence. *Intelligence*, 31(4), 343-397.

Gottfredson, L. S. (2004) Intelligence: is it the epidemiologists' elusive "fundamental cause" of social class inequalities in health? *Journal of Personality and Social Psychology*, 88(1), 174-199.

Gough, B., McFadden, M. & McDonald, M. (2013) *Critical social psychology*. Hampshire: Palgrave Macmillan.

Government of Western Australia (2016) *Process of identification*. Available Online: httpe://www.def.wa.edu.au/redirect/?oid=MultiParticArticale-id-14709404 [Accessed 06/10/2016].

Gowan, J. C., Khatena, J. & Torrance, E. P. (1979) *Educating the ablest: a book of readings on the education of gifted children*. Itasca: FE Peacock Publishers.

Gray, E., Ali, A. S. & Favaro, P. (2009) *Gifted education program review* [Lecture]. Peel District School Board.

Gray, C. & Malins, J. (2004) *Visualizing research: a guide to the research process in art and design*. Aldershot: Ashgate.

Grigorenko, E. L. & Sternberg, R.J., (2001) Analytical, creative, and practical intelligence as predictors of self-reported adaptive functioning: a case study in Russia. *Intelligence*, 29(1), 57-73.

Grix, J. (2004) *The foundations of research*. London: Palgrave Macmillan.

Gross, M. U. (2000) Exceptionally and profoundly gifted students: an underserved population. *Understanding Our Gifted*, 12(2), 3-9.

Gross, M. U. (2004) *Exceptionally gifted children*, 2nd edition. London: Routledge

Grubb, K. E. (2008) *An examination of the experiences of gifted preschool and primary age children*. PhD thesis. RMIT University.

Guba, E. G., & Lincoln, Y. S. (1994) Competing paradigms in qualitative research. In Denzin, N. K. & Lincoln, Y. S. (eds) *Handbook of qualitative research*. Thousand Oaks: Sage, 105-119.

Gullotta, T. P. & Bloom, M. (2002) *The encyclopaedia of primary prevention and health promotion*. New York: Kluwer Academic/Plenum.

Hammersley, M. (1992) *What's wrong with ethnography? Methodological exploration*. London: Routledge.

Have, P. T. (2004) *Understanding qualitative research and ethnomethodology*. London: Sage.

Healy, M., & Perry, C. (2000) Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative Market Research: An International Journal*, 3(3), 118-126.

Heller, K. A (1993) Structural tendencies and issues of research on giftedness and talent. In Heller, K. A., Mönks, F. J., Subotnik, R. & Sternberg, R. J. (Eds.) *International handbook of giftedness and talent*. Oxford: Pergamon, 49 - 63.

Heller, K. A. (2004) Identification of gifted and talented students. *Psychology Science*, 46(3), 302-323.

Hoepfl, M. C. (1997) Choosing qualitative research: a primer for technology education researchers. *Journal of Technology Education*, 9(1), 47-63.

Houghton, C., Casey, D., Shaw, D. & Murphy, K. (2013) Rigour in qualitative case-study research. *Nurse Researcher*, 20(4), 12-17.

Huberman, M., & Miles, M. B. (2002) *The qualitative researcher's companion*. Thousand Oaks: Sage.

Ibrahim, M. A. (2002) Gifted education system in the era of excellence and creativity. *Fifth scientific conference for educational talented and gifted entrance to the era of excellence and creativity*, Egypt.

International American Council (2013) International American Council: Middle East and North Africa. Available online: http://iaccouncil.org/countries/saudi-arabia/ [Accessed 09/10, 2016]

Jacob, S. A. & Ferguson, S. P. (2012) Writing interview protocols and conducting interviews: tips for students new to the field of qualitative research. *The Qualitative Report*, 17(42), 1-10.

Jadwa Investment (2013) Saudi Arabia's 2014 budget. Available online: http://susris.com/wp-content/uploads/2013/12/131224-jadwa-budget-en.pdf [Accessed 26/8/2016].

Jaffri, H. (2012) *Conception of giftedness and talent by pre-service and in-service primary school teachers in Johor, Malaysia: an exploration using a multiphase mixed methods design*. PhD thesis. Durham University. Available online: http://etheses.dur.aca.uk/3937/HJ August 2012.pdf [Accessed 06/10/2016].

Jaušovec, N., Jaušovec, K. & Gerlič, I. (2001) Differences in event-related and induced EEG patterns in the theta and alpha frequency bands related to human emotional intelligence. *Neuroscience Letters*, 311(2), 93-96.

Judd, J., McClelland, G. & Ryan, C. (2009) *Data analysis: a model comparison approach*, 2nd edition. New York: Routledge.

Kaufman, J. C., Plucker, J. A. & Russell, C. M. (2012) Identifying and assessing creativity as a component of giftedness. *Journal of Psychoeducational Assessment*, 30(1), 60-73.

Kemmis, S. (1980) *Action research in retrospect and prospect*. Sydney: Australian Association for Research in Education.

Khan, I. A. (2011) An analysis of learning barriers: the Saudi Arabian context. *CCSE*, 4(1), 242-247.

King Abdullah Public Education Department Development Project (2011) *Developing Education in Saudi Arabia.* Available online: http://www.tatween.edu.sa/content/aboutus [Accessed 19/04/2016].

King, N. (1994) The qualitative research interview. In King, N., Cassell, C., & Symon, G. (eds) *Qualitative methods in organizational research: a practical guide*. London: Sage, 14-36.

Klein, P. D. (1997) Multiplying the problems of intelligence by eight: A critique of Gardner's theory. *Canadian Journal of Education*, 22(4), 377-394.

Koshy, V. (2002) *Teaching gifted children 4-7: a guide for teachers*. London: David Fulton.

Koshy, V., Pinheiro-Torres, C. & Portman-Smith, C. (2012) The landscape of gifted and talented education in England and Wales: how are teachers implementing policy? *Research Papers in Education*, 27(2), 167-186.

Krippendorff, K. (2004) *Content analysis: an introduction to its methodology*. London: Sage.

Kvale, S. (1996) *Interviews: an introduction to qualitative research writing*. Thousand Oaks: Sage.

Lawati, F. A. K. & Hunsaker, S. L (2007) Differentiation for the gifted in American Islamic Schools. *Journal for the Education of the Gifted*, 30, 500-519.

Lee-Corbin, H. & Denicolo, P. (1998) *Recognizing and supporting able children in primary schools*. London: David Fulton Publishers.

Lodico, M. G., Spaulding, D. T. & Voegtle, K. H. (2010) *Methods in educational research: from theory to practice.* San Francisco: Jossey-Bass.

Lopes, P. N., Brackett, M. A., Nezlek, J. B., Schütz, A., Sellin, I. & Salovey, P. (2004) Emotional intelligence and social interaction. *Personality and Social Psychology Bulletin*, 30(8), 1018-1034.

Mack, L. (2010). The philosophical underpinnings of educational research. *Polyglossia*, 19, 5-11.

Maitra, K. (2000) Identification of the gifted: some methodological issues. *Gifted Education International*, 14(3), 296-301.

Maitra, K. (2006) An Indian perspective on gifted education: the synergy of India. In Wallace, B. and Eriksson, G. (Eds.) *Diversity in gifted education: international perspectives on global issues*. London: Routledge, 143-150.

Mandelman, S. D., Tan, M., Aljughaiman, A. M. & Grigorenko, E. L. (2010) Intellectual giftedness: economic, political, cultural and psychological considerations. *Learning and Individual Differences*, 20, 287-297.

Marland, S. P. (1972) *Education of the gifted and talented.* Washington: Congress of the United States.

Mason, J. (1996) *Qualitative researching*. London: Sage.

Mastropieri, M. A. & Scruggs, T. E. (2007) *Gifted, creative and talented, in the inclusive classroom: strategies for effective instruction*. Available online: http://www.education.com/reference/article/gifted-creative-talented-children/ [Accessed 10/10/2016].

Matthews, B. & Ross, L. (2010) *Research methods*: a *practical guide for the social sciences*. Harlow: Pearson Longman.

Mawhiba (2016) *The national project to identify the gifted*. Available online: http://www.mawhiba.org.sa/en/AboutKacgc/Pages/Introduction.aspx [Accessed 05/7/2016].

Mayer, J. D. & Salovey, P. (1997) *What is emotional intelligence?* New York: Basic Books.

Mayer, J. D., Caruso, D. R. & Salovey, P. (1999) Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, 27(4), 267-298.

Mayer, J. D., Salovey, P. & Caruso, D. R. (2004) Emotional intelligence: theory, findings, and implications. *Psychological Inquiry*, 15(3), 197-215.

Mayer, J. D., Salovey, P., Caruso, D. R. & Sitarenios, G. (2003) Measuring emotional intelligence with the MSCEIT V2.0. *Emotion*, 3(1), 97.

Maxwell, J. A. (1996) *Qualitative research design: an interactive approach*. Thousand Oaks: Sage.

McClain, M. C. & Pfeiffer, S. (2012) Identification of gifted students in the United States today: a look at state definitions, policies, and practices. *Journal of Applied School Psychology*, 28(1), 59-88.

McEwan, E. K. & McEwan, P. J. (2003) *Making sense of research: what's good, what's not, and how to tell the difference*. Thousand Oaks: Corwin Press.

Mensa (2016) *Mensa: the highest IQ* society. Available online: http://www.mensa.org.uk/gifted-talented [Accessed 02/10/2016].

Merriam, S. B. (1988) *Case study research in education: a qualitative approach*. San Francisco: Jossey-Bass.

Meyer, D. K., Turner, J. C. & Spencer, C. A. (1997) Challenge in a mathematics classroom: Students' motivation and strategies in project-based learning. *The Elementary School Journal*, 97(5), 501-521.

Meyer, M. R. & Fennema, E. (1985) Predicting mathematics achievement for females and males from causal attributions. In Damarin, S. K. & Shelton, M. E. (eds) *Proceedings of the seventh annual meeting of the North American chapter of the International Group for the Psychology of Mathematics Education*, Columbus, 201-206.

Miles, M. R & Huberman, A. M (1994) *Qualitative data analysis: an expanded sourcebook*, 2nd edition. Thousand Oaks: Sage.

Ministry of Economy and Planning (2010) *The development of human resources: ninth development plan.* Available online: http://www.mep.gov.sa/en/knowledge-resources/ninth-development-plan/ [Accessed /01 /12/2016]

Ministry of Education (1980) *Education policy in the Kingdom of Saudi Arabia*. Riyadh: Ministry of Education. Available online: Faculty.mu.edu.sa/download.php?fid=101806 [Accessed 25/11/2016]

Ministry of Education (2004) *Organisational manual for nomination for the national project for gifted Identification*. Personal Communication, 07 October 2016.

Ministry of Education (2005) *Executive summary of the Ministry of Education: ten-year plan.* Riyadh: General Directorate for Planning.

Ministry of Education (2006) *Organisational explanations for those working in gifted care*. Personal Communication, 07 October 2016.

Ministry of Education (2007) *The gifted programme in general education schools*. Personal Communication, 07 October 2016.

Ministry of Education (2008) *National report on education development in the Kingdom of Saudi Arabia*. Geneva: Education International Conference.

Ministry of Education (2009) *Project for general education development.* Available online: http://www.moe.gov.sa/openshare/englishcon/e13_09_2008_132008.html [Accessed 10/11/2016].

Ministry of Education (2013a) *Procedural manual for acceleration programme*. Personal Communication, 07 October 2016.

Ministry of Education (2013b) *Organisational manual for nomination for the national project for gifted identification*. Personal Communication, 07 October 2016.

Ministry of Education (2015a) *In-service training for teachers of the gifted*. Personal Communication, 07 October 2016.

Ministry of Education (2015b) *Setting up gifted classrooms*. Personal Communication, 07 October 2016.

Ministry of Education (2015c) *Statistical Information.* Available online: http://www.moe.gov.sa/ar/Pages/StatisticalInformation.aspx [Accessed 08/10/2016]

Ministry of Education (2016) *Training package within professional development programme series for gifted classes' teachers*. Personal communication, 07 October 2016.

Moller, A. C. & Elliot, A. J. (2006) The 2×2 achievement goal framework: an overview of empirical research. In Mitel, A. V. (ed) *Focus on educational psychology.* New York: Nova Science Publishers, 307-326.

Moltzen, A. & McFarlane, H. A. (2006). New Zealand: gifted and talented Maori learners. In Wallace, B. & Eriksson, G. (Eds.) *Diversity in gifted education: international perspectives on global issues*. London: Routledge, 305-307.

Mönks, F. J. & Katzko, M. W. (2005) Giftedness and gifted education. In Sternberg, R. J. and Davidson, J. D. (eds) *Conceptions of giftedness*, 2nd edition. Cambridge: Cambridge University Press, 187-200.

Motoally, M. (2004) The theoretical frame of the educational system in Saudi Arabia. In Al-Sarbla, M. Al-Sarbla, M., Al-Khateeb,M., Motaly. M. & Abduljawad, N. (eds) *System of education in Kingdom of Saudi Arabia* (In Arabic). Riyadh: Dar Alkhoreji.

NAGC (2009) *State of the states in gifted education: national policy and practice.* Available online: http://www.k12.wa.us/HighlyCapable/Workgroup/pubdocs/2008-2009_State_of_the_States_Report.pdf [Accessed 29/10/2016].

NCCA (2007) *Gifted and talented pupils guidelines for teachers.* Belfast: CCEA.

Niblock, T. (2013) *Asia-Gulf economic relations in the 21st century: the local to global transformation*. Berlin: Gerlach Press.

NSGT – National Society for Gifted and Talented (2016) *Giftedness defined*. Available online: http://www.nsgt.org/giftedness-defined/ [Accessed /10/10/2016].

OFSTED (2001) *Providing for gifted and talented pupils: an evaluation of Excellence in Cities and other grant-funded programmes*. London: Office for Standards in Education. Available online: http://dera.ioe.ac.uk/4528/1/giftedandtalented.pdf [Accessed 22/01/2017]

OFSTED (2016) The most able students - still too much talent going to waste: accompanying methodology note, ref. no. 160038. Available online: https://www.gov.uk/government/speeches/hmcis-monthly-commentary-june-2016 [Accessed on 18/03/ 2017].

OPEC (2012) *The OPEC Annual Statistical Bulletin*. Available online: http://www.opec.org/opec_web/static_files_project/media/downloads/publications ASB2012.PDF [Accessed 09/09/2016]

Oyaid, A. (2009) *Education policy in Saudi Arabia and its relation to secondary school teachers' ICT use, perceptions, and views of the future of ICT in Education*. PhD thesis. University of Exeter.

Passow, A. H. (1993) National/state policies regarding education of the gifted. In Heller, K. A. Mönks, F. J., Subotnik, R. & Sternberg, R. J. (Eds.) *International handbook of giftedness and talent*. Oxford: Pergamon, 29-46.

Pekrun, R., Elliot, A. J. & Maier, M. A. (2009) Achievement goals and achievement emotions: testing a model of their joint relations with academic performance. *Journal of Educational Psychology*, 101(1), 115-135.

Perleth, Ch., Schatz, T. & Mönks, F.J. (2000). Early Identification of High Ability. In K.A. Heller, F.J. Mönks, R.J. Sternberg & R.F. Subotnik (Eds.), *International Handbook of Giftedness and Talent* (2nd ed., pp. 297-316). Oxford: Pergamon.

Pfeiffer, S. I. (2012) Current perspectives on the identification and assessment of gifted students. *Journal of Psychoeducational Assessment*, 30(1), 3-9.

Pintrich, P. R. (2000) An achievement goal theory perspective on issues in motivation terminology, theory, and research. *Contemporary Educational Psychology*, 25(1), 92-104.

Plomin, R. & Craig, I. (2001) Genetics, environment and cognitive abilities: review and work in progress towards a genome scan for quantitative trait locus associations using DNA pooling. *The British Journal of Psychiatry*, 178(40), s41-s48.

Ponterotto, J. G. (2005) Qualitative research in counselling psychology: a primer on research paradigms and philosophy of science. *Journal of Counselling Psychology*, 52(2), 126-130.

Ramos-Ford, V. & Gardner, H. (1991) Giftedness from a multiple intelligences perspective. In Colangelo, A. N. & Davis, G. (eds) *Handbook of gifted education*. Needham Heights: Allyn and Bacon, 55-64.

Reid, N. A. (2006) The detection and nurture of the culturally different in Aotearoa/New Zealand. In Wallace, B. & Eriksson, G. (Eds.) *Diversity in gifted education: international perspectives on global issues*. London: Routledge, 86 -105.

Renzulli, J. S. (1979) *What makes giftedness? Re-examining a definition*. Morovia: Phi Delta Kappan.

Renzulli, J. S. (1984) The three-ring conception of giftedness: a developmental model for creative productivity. New Orleans: Annual Meeting of the American Educational Research Association, 23-27 April 1984.

Renzulli, J. S. (1998) A rising tide lifts all ships. *Phi Delta Kappan*, 80(2), 104-111.

Renzulli, J. S. (2002) Emerging conceptions of giftedness: building a bridge to the new century. *Exceptionality*, 10(2), 67-75.

Renzulli, J. S. (2005a) Assumptions underlying the identification of gifted and talented students. *Gifted Child Quarterly*, 49(1), 68-79.

Renzulli, J. S. (2005b) The three-ring conception of giftedness: a developmental model for creative productivity. In Sternberg, R. J. & Davidson, J. (eds) *Conceptions of giftedness*, 2nd edition. Cambridge: Cambridge University Press, 246-279.

Renzulli, J. S. (2014) *A Practical system for identifying gifted and talented students*. Available online: http://gifted.uconn.edu/schoolwide-enrichment-model/identifygt/ [Accessed 13/10/2016].

Renzulli, J. S. & Reis, S. M. (1994) Research related to the schoolwide enrichment triad mode1. *Gifted Child Quarterly*, 38(1), 7-20.

Renzulli, J. S. & Reis, S. (2000) The schoolwide enrichment model. In Heller, K. A., Monks, F. J., Sternberg, R. J. & Subotnik, R. F. (eds) *International handbook of giftedness and talents*, 2nd edition. New York: Pergamon, 367-382.

Renzulli, J. S. & Reis, S. M. (2008) *Enriching curriculum for all students*, 2nd edition. Thousand Oaks: Corwin Press.

Robeck, M. C. (1968) *Special class programmes for intellectually gifted pupils*. California: California State Department of Education.

Robinson, N. M. (2005) In defense of a psychometric approach to the definition of academic giftedness. In Sternberg, R. J. & Davidson, J. E. (eds) *Conceptions of giftedness*, 2nd edition. Cambridge: Cambridge University Press, 280–294.

Robson, C. (2002) *Real world research*. Oxford: Blackwell.

Roeser, R. W., Midgley, C. & Urdan, T. C. (1996) Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: the mediating role of goals and belonging. *Journal of Educational Psychology*, 88(3), 408-422.

Rogers, K. (2002) Grouping the gifted and talented. *Paper Review*, 24, 103-107.

Rugh, W. A. (2002) Education in Saudi Arabia: choices and constraints. *Middle East Policy*, 9(2), 40.

Salman, G. (1991) Transcending, the qualitative – quantitative debate: the analytic and systemic approaches to educational research. *Educational Researcher*, 20(6), 10-18.

Salovey, P. & Mayer, J. D. (1990) Emotional intelligence. *Imagination, Cognition and Personality*, 9(3), 185-211.

Sandberg, J. (2005) How do we justify knowledge produced within interpretive approaches? *Organizational Research Methods*, 8(1), 41-68.

Saudi Embassy (2013) Official website. Available online: https://www.saudiembassy.net/about country information/ government/ [Accessed 23/10/ 2016]

Saunders, M. L., Lewis, P. & Thornhill, A. (2009) *Research methods for business students*, 5th edition. Essex: Pearson.

Schoult, A. (2006) *Doing business with Saudi Arabia*. London: GMB Publishing.

Senko, C., Hulleman, C. S. & Harackiewicz, J. M. (2011) Achievement goal theory at the crossroads: Old controversies, current challenges, and new directions. *Educational Psychologist*, 46(1), 26-47.

Shenton, A. K. (2004) Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63-75.

Sigel, I. E., Brodinsky, D. M. & Golinkoff, R. M. (1981) *New directions in Piagetian theory and practice*. Hillsdale: Erlbaum.

Silver, L. S., Dwyer, S. & Alford, B. (2006) Learning and performance goal orientation of salespeople revisited: the role of performance-approach and performance-avoidance orientations. *Journal of Personal Selling & Sales Management*, 26(1), 27-38.

Silverman, L. K. (2007) *What we have learned about gifted children, 1979-2007*. Denver: Gifted Development Centre.

Smutny, J. F. (2000) *How to stand up for your gifted child: making the most of kids' strengths at school and at home*. Minneapolis: Free Spirit Publishing.

Spearman, C. (1904) General intelligence, objectively determined and measured. *The American Journal of Psychology*, 15(2), 201-292.

Stake, R. E. (1995) *The art of case study research*. London: Sage.

Stalinsky, S. (2002) *Preliminary overview - Saudi Arabia's education system: curriculum, spreading Saudi education to the world and the official Saudi position on education policy*. The Middle East Media Research Institute. Available online: https://www.memri.org/reports/preliminary-overview-saudi-arabias-education-system-curriculum-spreading-saudi-education [Accessed 15/02/2016].

Stenbacka, C. (2001) Quality research requires quality concepts of its own. *Management Decision*, 39(7), 551-555.

Sternberg, R. J. (1985) *Beyond IQ: a triarchic theory of human intelligence*. New York: Cambridge University Press.

Sternberg, R. J. (1993) Procedures for identifying intellectual potential in the gifted: a perspective on alternative "metaphors of mind". In Heller, K. A., Monks, F. J. & Passow, A.

H. (eds) *International handbook of research and development of giftedness and talent*. Oxford: Pergamon Press.

Sternberg, R. J. (2003) A broad view of intelligence: the theory of successful intelligence. *Consulting Psychology Journal: Practice and Research*, 55(3), 139-154.

Sternberg, R. J. (2004a) Culture and intelligence. *American Psychologist*, 59(5), 325-338.

Sternberg, R. J. (2004b) *Introduction to definitions and conceptions of giftedness*. London: Sage.

Sternberg, R. J. & Davidson, J. E. (2005) *Conceptions of giftedness*, 2nd edition. Cambridge: Cambridge University Press.

Sternberg, R. J. & Grigorenko, E. L. (2002a) Difference scores in the identification of children with learning disabilities: it's time to use a different method. *Journal of School Psychology*, 40(1), 65-83.

Sternberg, R. J. & Grigorenko, E. L. (2002b) The theory of successful intelligence as a basis for gifted education. *Gifted Child Quarterly*, 46(4), 265-277.

Sternberg, R. J., Jarvin, L. & Grigorenko, E. L. (2001) *Explorations in giftedness*. Cambridge: Cambridge University Press.

Sternberg, R. J., Nokes, C., Geissler, P. W., Prince, R., Okatcha, F., Bundy, D. A. & Grigorenko, E. L. (2001) The relationship between academic and practical intelligence: a case study in Kenya. *Intelligence*, 29(5), 401-418.

Sternberg, R. J. & Subotnik, R. F. (2000) A multidimensional framework for synthesizing disparate issues in identifying, selecting, and serving gifted children. In Heller, K. A., Monks, F. J., Sternberg, R. J. & Subotnik, R. F. (eds) *International handbook of giftedness and talents*, 2nd edition. New York: Pergamon, 831-838

Sternberg, R. J. & Zhang, L. F. (1995) What do we mean by giftedness? A pentagonal implicit theory. *Gifted Child Quarterly*, 39(2), 88-94.

Taylor, C. A. (1993) Programs and practices for identifying and nurturing giftedness and talent in Africa. In Heller, K. A., Mönks, F. J. & Passow, A. H. (Eds.) *International handbook of giftedness and talent.* Oxford: Pergamon, 833 - 847.

Terman, L. M. (1925) *Mental and physical traits of a thousand gifted children.* Stanford: Stanford University Press.

Thingujam, N. S. (2002) Emotional intelligence: what is the evidence? *Psychological Studies*, 47(1-3), 54-69.

The Qur'an (Oxford World's Classics) (2004) Translated from Arabic by M. A. S. Abdel Haleem. Oxford: Oxford University Press.

Thody, A. (2006) *Writing and presenting research*. London: Sage.

Tomlinson, C. A., Tomchin, E. M. & Callahan, C. M. (1994) *Preservice teachers' perceptions of and responses to the differential needs of gifted students in their classrooms.* Available online:

http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detail mini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=ED372060&ERIC ExtSearch_SearchType_0=no&accno=ED372060 [Accessed 15/10/2016].

Torrance, E. P. (1978) *Norms-technical manual: tests of creative thinking*. Lexington: Ginn & Co.

Tunnicliffe, C. (2010) *Teaching able, gifted and talented children: strategies, activities and resources*. London: Sage.

UNESCO (2011) *World data on education.* Available online: http://www.ibe.unesco.org/en/document/world-data-education-seventh-edition-2010-11

UNESCO (2014) *Saudi Arabia country profile*. Available online: http://www.uis.unesco.org/DataCentre/Pages/country-profile.aspx?code=SAU [Accessed 21/08/2016].

Urban, K. K. & Sekowski, A. (1993) Programs and practices for identifying and nurturing giftedness and talent in Europe. In Heller, K. A., Mönks, F. J. & Passow, A. H. (Eds.) *International handbook of giftedness and talent.* Oxford: Pergamon, 49-67.

Van Tassel-Baska, J. (2005) Domain-specific giftedness. In Sternberg, R. J. and Davidson, J. E. (eds) *Conceptions of giftedness*, 2nd edition. Cambridge: Cambridge University Press, 358-376.

Wafi, A. (1967) Human rights in Islam. *Islamic Quarterly*, 11(1-2), 64-75.

Wallace, B. (2006) The triaxial bond of emotion, language and cognition: TASC–Thinking Actively in a Social Context. In Wallace, B. & Eriksson, G. (Eds.) *Diversity in gifted education: international perspectives on global issues*. London: Routledge, 9-20.

Wechsler, D. (2014a) *Wechsler intelligence scale for children, 5th edition.* San Antonio: NCS Pearson.

Wechsler, D. (2014b) *Wechsler intelligence scale for children: technical and interpretive manual.* San Antonio: NCS Pearson.

Weiner, B. (1979) A theory of motivation for some classroom experiences. *Journal of Educational Psychology*, 71(1), 3-25.

Weiner, B. (1985) An attributional theory of achievement motivation and emotion. *Psychological Review*, 92(4), 548-573.

Willingham, D. T. (2004) Reframing the mind: Howard Gardner became a hero among educators simply by redefining talents as 'Intelligences'. *Education Next*, 4(3), 18-24.

Willis, J. W. (2007) *Foundations of qualitative research: interpretive and critical approaches*. Thousand Oaks: Sage.

Wiman, R. & Sandhu, J. (2004) *Integrating appropriate measures for people with disabilities in the infrastructure sector*. Eschborn: GTZ & STAKES.

Winner, E. (2000) Giftedness current theory and research. *Current Directions in Psychological Science*, 9(5), 153-156.

Winner, E. & Martino, G. (2000) Giftedness in non-academic domains: the case of the visual arts and music. In Heller, K. A., Monks, F. J., Sternberg, R. J. & Subotnik, R. F. (eds) *International handbook of giftedness and talents,* 2nd edition. New York: Pergamon, 95-110.

Winstanley, C. (2004) Exceptionally gifted children. *British Journal of Educational Studies*, 52(4), 450-455.

Wiseman, A. W. & Alromi, N. H. (2007) *The employability imperative: schooling for work as a national project.* New York: Nova Science Publishers.

Wolters, C. A. (2004) Advancing Achievement Goal Theory: using goal structures and goal orientations to predict students' motivation, cognition, and achievement. *Journal of Educational Psychology*, 96(2), 236.

World Bank (2014) ‘‘*Population, Saudi Arabia’’*. Available online: https://data.worldbank.org/indicator/SP.POP.TOTL?locations=SA

Worrell, F. (2009) Myth 4: a single test score or indicator tells us all we need to know about giftedness. *Gifted Child Quarterly*, 53, 242–244.

Worthington, J. (2001) *Parents are the best source of information about their children's abilities.* Available online: http://www.uq.edu.au/news/article=26 9 [Accessed 01/11/2016].

Yamin, T. S. & Ambrose, D. (2012) Dogmatic influences suppressing discovery and development of giftedness and talent in the Arabian Gulf and Middle Eastern region. In Ambrose, D. Sternberg R. J. & Sriraman, B. (eds.) *Confronting dogmatism in gifted education*. London: Routledge, 153-163.

Yardley, L. (2000) Dilemmas in qualitative health research. *Psychology and Health*, 15(2), 215-228.

Yin, R. K. (2009) *Case study research: design and methods*. London: Sage.

Zeidner, M., Shani-Zinovich, I., Matthews, G. & Roberts, R. D. (2005) Assessing emotional intelligence in gifted and non-gifted high school students: outcomes depend on the measure. *Intelligence*, 33(4), 369-391.

Zha, Z. X. (1993) Programs and Practices for Identifying and Nurturing Giftedness and Talent in the People’s Republic of China. In Heller, K. A., Mönks, F. J. & Passow, A. H. (Eds.) *International handbook of giftedness and talent.* Oxford: Pergamon, 809-814.

Appendices

Appendix A: Interview Guide

1. Can you please tell me about any policy-related issues that you see as a challenge to the identification of gifted and talented boys?
2. Are there any features of the education system itself that you think pose challenges to the identification of gifted and talented boys? (By education system, I mean all components of the system including the structure, people, physical setting and so on).
3. In what ways do you think that pedagogical issues (that is, teaching principles and practices) might pose a challenge to the identification of gifted and talented boys?
4. How do you think socio-cultural issues pose a challenge to the identification of gifted and talented boys?
5. Can you think of anything else that you see as a challenge to the identification of gifted and talented boys?

Probes (used as needed)

- Could you please tell me a bit more about that?
- Can you give me an example?
- Could you please explain what you mean by that?
- How does that affect you?

Appendix B: Sample Extract from Research Notes

School B

Level :

Primary

Time:

09:30 am

Date :

03+04+08+09/09/2014

Staff of School:

The school has a headteacher, deputy head, 24 teachers (one of whom is designated the activity leaders) and 400 students

Factual Setting:

Place Description: A private building of two floors designated for the primary stage. It was formerly a house and has been rented as a school. There are small backyards and a football playground. There is an office for the director, a specified room for the activity leader and a dining hall also used for some activities.

School administration:

The school has a headteacher, deputy and 24 teachers of various specializations. There is also laboratory arranger and a secretary. There are some shelves for the records and some references in the head teacher's office. There is a wall board on which the teacher timetable is (displayed). The number of teaching periods for each teacher is 23-24 per week. The headteacher communicates with the teachers through visiting them at their classes or calling them to his office to discuss work issues. There are nomination forms for students identified as gifted, which are sent from the Department of Education at the region. Nomination's

performed by the activity leader, since there is no teacher of the gifted and talented at the school.

The Classroom:

There are 12 classrooms at the school which vary in size, and also a small hall for the students. The small size of the classrooms was noticed, although there are between 33 and 37 students in each. The classrooms contain some wall newspapers. There are no computers in the classrooms. It is noticed that there is a blackboard in every class and a desk for the teacher. The classrooms contain no modern teaching aids. In every class, there is one teacher who is responsible for the class management and also responsible for discussion and the activities inside and outside the class, if any. There is no class for gifted students or learning resources room. There is a laboratory with little and traditional equipment and there are two computers in the room, which students who know how to use computers use sometimes for design. There is also a room for school activities, which contains some work and a few games.

Teachers at the school:

There are 24 teachers: one for learning difficulties, and no different specializations at the school. There is no teacher for gifted students, or specialized teacher for learning sources. The duty is from 07:00 am to 1:00 pm. Many of the teachers at the school are from Arab countries (non-Saudi). Every teacher has a timetable and must adhere to the class periods assigned to him by the management. He has a chair and table in the classroom. There is no school counsellor, and the problems of the students are solved by the teachers themselves, or sometimes raised with the administration for the necessary action. The teachers use private records to record their notes and they have no laptops. They use the playground for performing some activities. There is a small staff room for teachers' use in their free time. The teachers have two computers for writing and recording data or viewing some subjects on the only projector at the school.

The teaching methods:

The school contains some teaching aids like the wall newspaper and two computers in the laboratory, with a projector used by the teachers. There is also school radio and there is a recorder which the teacher uses when he wishes, in teaching. There is a small theatre at the

school. There are blackboards in every classroom, and but no smart board. There are some aids like games, publications and shapes, in the student activity room.

Activities at the school:

There is only one playground at the school, which is for football, and a medium sized hall built later in which basketball is played and sometimes volleyball. Teachers take some groups of students to these playgrounds and the theatre for activities. There is no specific activities programme; activities depend on the teacher to devise suitable activities. Two class periods per week are allocated for such activities. There is also a class period for art. There is a sport teacher who is responsible for sporting activities inside and outside the school, including sports competitions inside or outside the region. There is no specific activity for the gifted students. There are some wall newspapers in the corridors and inside the classrooms, but there are no materials related to giftedness and talent.

Appendix C: Research Approval

UNIVERSITY OF Hull

Centre for Educational Studies
T 01482 465988
E j.lison@hull.ac.uk

ETHICAL PROCEDURES FOR RESEARCH AND TEACHING IN THE FACULTY OF EDUCATION

PERMISSION TO PROCEED WITH RESEARCH: ETHICAL APPROVAL

Reference Number:	13/362
Name:	Nwaimis Salem Al Nwaimis
Student No:	201201483
Programme of Study:	PhD
Research Area/Title:	Challenges faced in the identification of gifted and talented children in [redacted] KSA
Image Permission Form	N/A
Name of Supervisor:	Dr Catherine Montgomery
Date Approved by Supervisor:	4 July 2014
Date Approved by Ethics Committee:	18 July 2014

FACULTY OF EDUCATION UNIV OF HULL

University of Hull
Hull HU6 7RX
United Kingdom
+44(0) 1482 346311
www.hull.ac.uk

Appendix D: List of Interview Participants

No.	Code	Role	Location	Date
1	PRST1	Teacher	School B	17/9/14
2	PUST1	Teacher	School C	20/9/14
3	PM1	Senior Official	Centre	8/7/14
4	PUST2	Teacher	School C	16/9/14
5	PM2	Supervisor	Centre	7/9/14
6	PUST3	Teacher of Gifted and Talented	School A	15/9/14
7	PUST4	Teacher of Gifted and Talented	School D	31/8/14
8	PT1	Father of Gifted Child	City	29/8/14
9	PRST2	Teacher	School B	11/9/14
10	PUST5	Headteacher	School D	15/9/14
11	PM3	Supervisor	Centre	7/7/14
12	PRST3	Teacher	School B	17/9/14
13	PUST6	School counsellor	School A	4/9/14
14	PT2	Father of a gifted child	City	8/8/14
15	PM4	Head of Department	DoE	6/8/14
16	PUST7	Teacher of Gifted and Talented	School C	18/9/14
17	PM5	Senior official	Centre	7/7/14
18	PM6	Supervisor	Centre	8/7/14
19	PUST8	Deputy headteacher	School A	11/9/14
20	PUST9	Teacher	School D	17/9/14

Appendix E: Consent Form

Interview Consent Form

Interview will discuss:

Investigate the possible challenges and causes that are faced in the process of the identification of gifted and talented children in the selected region of KSA.

C**ontact Details:**

For further information about the research or your interview data, please contact:
Nwaimis Alnwaimis, Department of Education, at Hull University 078800910,
n.s.alnwaimis@2012.hull.ac.uk

If you have concerns/questions about the research you would like to discuss with someone else at the University, please contact: *Catherine Montgomery* **DEPARTMENT, PHONE NUMBER, EMAIL**

Consent for Participation in Interview Research

I volunteer to participate in a research project conducted by Nwaimis Alnwaimis from the University of Hull. I understand that the project is designed to gather information about the challenges in the identification of Gifted and talented children in the selected region of KSA. I will be interviewed for this research as part Nwaimis Alnwaimis's Thesis

1. My participation is voluntary I understand I will not be paid for my participation. I may withdraw at my convenience without reason.

2. I understand that I may find the interview very personal and at times distressing. If, however, I feel uncomfortable in any way during the interview session, I have the right to decline to answer any question and or to end the interview.

3. I will be interviewed by Nwaimis Alnwaimis of Hull University. The interview will last between 60-90 minutes. Notes will be taken during the interview, and I understand the conversation may be recorded. If I don't want to be recorded, I will not be able to participate in the study.

4. I understand that the researcher will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain private. I may be referred to by fictitious letters e.g N.A however my anonymity is protected.

5. I have read and understand the information provided. I am clear and have had my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

6. I have been given a copy of this consent form.

_____ _____

Nwaimis S. Alnwaimis Date

_____ _____

Participant Printed Name Signature

Appendix F: Ethics Disclaimer

Based on the information that I have provided regarding my research question(s) and methodology I hereby declare that my supervisor has approved my ethics form and I have received ethical clearance. In addition I have obtained consent from the research participants and have provided full and appropriate information to all the participating parties, which I recognise as my responsibility. All participants received a copy of the consent form and the following have been attached.

Appendix G: Confirmation of completion of research

المملكة العربية السعودية
وزارة التربية والتعليم
الرمز (٢٨٠)
الإدارة العامة للتربية والتعليم بمنطقة حائل
إدارة التخطيط والتطوير
البحوث والدراسات

سعادة / مساعد الملحق للشؤون التعليمية والأكاديمية في لندن ..... وفقه الله

السلام عليكم ورحمة الله وبركاته ، وبعد:

إشارةً إلى خطابكم رقم الملف HU043 وتاريخ ١٤٣٥/٧/١٦هـ بشأن قيام طالب درجة الدكتوراه.. نويميس بن سالم بن عودة النويميس .. (بجامعة Hull ـ تخصص التربية) برحلة علمية إلى المملكة العربية السعودية لإكمال إجراءات بحثه بعنوان (التحديات التي تواجهنا عند تحديد الطلاب الموهوبين في منطقة حائل في المملكة العربية السعودية) ..

عليه .. نفيدكم أنه لا مانع لدينا من قيام الباحث بهذه الرحلة العلمية واستكمال إجراءات بحثه في مدارس المنطقة .. سائلين الله التوفيق للجميع .

والسلام عليكم ورحمة الله وبركاته ،،،

مدير عام التربية والتعليم بمنطقة حائل

د. يوسف بن محمد الثويني