

**Needs Assessment of Gifted Education Programmes in  
Dubai; an investigative case study of governmental  
Primary Schools**

تقييم احتياجات برامج الموهوبين في دبي  
دراسة حالة استقصائية لمدارس ابتدائية حكومية

by

**MARIAM ALI ALGHAWI, M.Ed.**

**A thesis submitted in fulfillment  
of the requirements for the degree of  
DOCTOR OF EDUCATION**

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الجامعة  
البريطانية في  
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The  
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**Jan 2016**

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## **ABSTRACT IN ENGLISH**

Gifted education, defined as the schooling of students demonstrating an exceptional ability to learn, is relatively new in the education system of the United Arab Emirates (UAE); hence, research on gifted education in the UAE is limited. This study was the first to investigate the implementation of gifted education programmes at seven primary government schools in Dubai. The main research question of the study was: What programs are offered for gifted learners in primary government schools in Dubai? And what is needed in order to improve the provisions of gifted education? The study adopted the National Association for Gifted Children (NAGC) gifted program standards as a framework. A sequential exploratory mixed-methods research design was employed with a triangulation of data to test the validity of the findings. The methods used to collect the data included classroom observations, interviews and a questionnaire survey with teachers, a focus group with parents, and a review of official documents. The conclusions were that although the provision of education for gifted students has progressed in Dubai in the last ten years, there is still room for improvement with regards to identification of gifted students and implementation of gifted policies and programs. School administrators and teachers need to better understand and implement the policies prescribed by the Ministry of Education. Based on the findings a set of recommendations is offered to better serve the gifted students of UAE in the future.

## ABSTRACT IN ARABIC

### موجز البحث

تقييم الاحتياجات اللازمة لبرامج تعليم الموهوبين في دبي:

دراسة استقصائية لمدارس ابتدائية حكومية

تعتبر برامج تعليم الموهوبين جديدة نسبياً في النظام التعليمي بدولة الإمارات العربية المتحدة؛ وبالتالي، فإن توفير برامج تعليم الموهوبين نادراً ما يتم إخضاعها للدراسة بدولة الإمارات العربية المتحدة؛ حيث تعتبر هذه الدراسة الاستقصائية من بين أوائل الدراسات التي تبحث تنفيذ برامج الموهوبين في سبع مدارس حكومية ابتدائية في إمارة دبي بدولة الإمارات العربية المتحدة؛ وذلك من أجل الإجابة على سؤال رئيسي للدراسة؛ ألا وهو: ما هي البرامج التي يتم تقديمها للمتعلمين الموهوبين داخل المدارس الحكومية الابتدائية بإمارة دبي؟ وما هو المطلوب من أجل تحسين شروط تعليم الموهوبين؟

تستند هذه الدراسة إلى معايير "الجمعية الوطنية للأطفال الموهوبين" لبرامج الطلبة الموهوبين كإطار لها؛ حيث تم توظيف واتباع نهج يتضمن مزيجاً من الأساليب؛ فضلاً عن استخدام منظور ثلاثي لجمع البيانات من أجل ضمان موثوقية وصحة النتائج. وتتكون هذه الأساليب مما يلي: الملاحظات الصفية، والمقابلات، والاستبيانات الاستقصائية، مجموعات تركيز لأولياء الأمور، ومراجعة الوثائق الرسمية التي تم إجراؤها في مراحل متتابعة. وقد تم تحليل البيانات وتفسيرها من أجل الوصول إلى النتائج، والتي تم شرحها باستخدام المنطق التبريري.

هذا وقد أظهرت النتائج بأنه بالرغم من التقدم الحاصل في تقديم برامج تعليم الموهوبين بشكل ملحوظ في مدارس دبي؛ إلا أنها لا تزال بحاجة إلى مزيد من عمليات التحسين لخدمة الطلاب الموهوبين بصورة أفضل؛ من أجل استثمار مواهبهم لخدمة بلدهم. وبناءً على النتائج، فقد تم تقديم مجموعة من التوصيات ضمن هذه الدراسة من أجل تحقيق خدمة أفضل للطلاب الموهوبين.

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# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

In order to prepare children for the expanding global economy in the 21<sup>st</sup> century, the education of all students needs to be competitive and innovative. Countries that do not prepare all children for a new world order may lose their economic and cultural status (Gardner, 2004). World-class educational standards are currently being established, and educational policies are being formulated based on international best practice. Consequently, more than ever, the field of education, including gifted education, is being called on to provide meaningful outcomes for all students (Basham et al, 2010).

Gifted education is generally defined as the schooling of students demonstrating exceptional abilities. The National Association for Gifted Children (NAGC) generally defines a gifted student as one “who demonstrate outstanding aptitude or competence in one or more domains” (2011). Although gifted education has been well established in the United States of America (USA) and Europe for many years (Davis & Rimm, 2004), gifted education is a relatively modern innovation in the United Arab Emirates (UAE). The Special Abilities Department at the Ministry of Education (MoE) started to provide programmes for gifted students in the academic year 2000. For the last fifteen years, various gifted education programmes have been implemented in government schools in the UAE (MoE, 2014). Limited research has, however, been conducted to evaluate these programmes, providing a direction and rationale for the current study. Accordingly, the aim of this multiple case study was to (a) explore and assess the provision of gifted education at seven

governmental primary schools in Dubai; and (b) provide recommendations based on the findings, in order to enhance the provision of gifted education in the UAE.

Gifted students in the UAE are considered to have special needs. The principle adopted by the MoE for educating students with special needs is equity in education. This principle is based on Article 14 of the UAE constitution, which calls for social justice for all citizens (Alahbabi, 2009; UAE Cabinet, 2010). Educational equity is a process that is dependent on (a) fairness, implying that personal circumstances should not interfere with an individual's potential for academic success; and (b) inclusion, implying that comprehensive academic standards should apply to every individual in an education system (Organization for Economic Cooperation and Development, 2008). The outcome of educational equity is equality. Many international organizations and conferences have emphasized equity in education for all students. The Universal Declaration of Human Rights (1948), the United Nation's Convention on the Right of the Child (1997), the World Conference on Education for All (1990), the World Conference on Special Needs Education (1994), the World Education Forum (2000), the Millennium Development Goals (2000) all called for equity in education. Merry (2008) argued that to ensure gifted students have equity in education, they should be exposed to activities that challenge their exceptional abilities to learn.

The Ministry of Education (MoE) strive to provide students with Special Needs including gifted students a variety of education opportunities in their educational journey. That came as a response to many national and international calls

for human rights including inclusion in education (General Rules for the Provision of Special Education Programs and Services, 2010, p.13).

## **1.2 Purpose and Objectives of the Study**

The title of this study is: “Needs assessment of gifted education programmes in Dubai – an exploratory study of governmental primary schools”. Needs assessment as a term means, “identifying needs as gaps between current and desired results“ (Leigh et al., 2000, p.87). Accordingly, the purpose of this study was to assess the current implementation of gifted education programmes at governmental primary schools in Dubai, and to make recommendations to enhance the provision of gifted education.

The objectives of this study were to address the following main question and sub- questions:

### *Main question*

What programmes are offered for gifted learners in primary government schools in Dubai? And what is needed in order to improve the provision of gifted education?

### *Sub-question*

1. What policies are in place to support the provision of services offered for gifted students?
2. How is giftedness defined in Dubai? And how are the gifted students identified in order to be served?

3. What programs are offered for gifted students in Dubai? And how are they implemented?

4. What is needed in order to improve the provision of gifted education in order to contribute to the development of the UAE?

The answers to these questions were obtained using a mixed methods approach consists of qualitative and quantitative methods which involving a multiple case studies. The mixture of quantitative and qualitative data was collected sequentially in five phases: (1) official documents analysis (2) cross-sectional questionnaire survey; (3) classroom observations; (4) parents' focus groups; and (5) interviews with school staff. Details on methodologies can be found in chapter 3.

### **1.3 NAGC Framework**

The National Association for Gifted Children (NAGC) Pre-K-Grade 12 Gifted Programming Standards is used as a framework for the current study. NAGC standards were published in 2010 (NAGC, 2010) were used as a framework to evaluate the implementation of the gifted education programmes at the participating schools in Dubai. Appendix 10/1 includes the NAGC 2010 gifted standards used for this study. These NAGC 2010 gifted programmes standards are underpinned by practices grounded in research and theory and developed with input from many stakeholders. The standards were based on evidence based classroom practices to enhance services and outcomes for gifted students (NAGC, 2010). The Gifted Programming Standards guide advocacy, evaluation, and teacher selection, as well as underpinning policies and regulations in gifted education. The guidelines are based on six standards, specifically: Learning and development, Assessment, Curriculum

planning and instruction, Learning environment, Programming, and Professional development, as outlined in Figure 1.1. Further information about the NAGC standards is reviewed in Chapter 2, sections 2.4 and 2.10.



**Figure 1.1 NAGC gifted programs’ standards**

#### **1.4 The United Arab Emirates (UAE)**

The UAE (see Figure 1.2) is a relatively rapidly developing country, located on the Arabian Peninsula in Asia on a land area equal to 83.600 square kilometres (World Bank, 2013).



**Figure 1.2. Map of UAE (adapted from World Bank, 2013)**

Seven emirates form the UAE with Abu Dhabi as the capital. The other emirates are: Dubai, Sharjah, Ajman, Umm Al Quwain Ras Al Khaimah and Fujairah (Gaad et al., 2006). The UAE was declared in 1971 when six emirates joined the federation, and Ras Al Khaima joined in 1972. The population of the UAE is about 9.35 million with 21% nationals (World Bank, 2013). The Federal National Council represents the legislative authority, and the Cabinet of Ministers represents the executive (UAE Report on Sustainable Development, 2002).

The UAE is striving to reach excellence in many sectors including its economy, industry, finance and education (Gaad et al., 2006). The government agenda (UAE Vision, 2021) calls for six national priorities, as follows: (1) Cohesive society and preserved identity; (2) Safe public and fair judiciary; (3) Competitive knowledge economy; (4) First-rate education system; (5) World-class healthcare; and (6) Sustainable environment and infrastructure. The following section presents a summary of the country's educational system.

First-rate education priority is concerned with education in the UAE. According to the UAE Vision (2021), "All Emiratis will have equal opportunity and access to first-rate education that allows them to develop into well-rounded individuals, enhance their educational attainment, and achieve their true potential, contributing positively to society" and " Education will provide equality of opportunity and balanced outcomes for all students. Special needs students will be properly integrated within the education system with the benefit of support programmes and infrastructure that guarantee fair access." (UAE Vision, 2021). The

following table illustrates the indicators of first-rate education priority of the UAE vision (2021).

**Table 1.1 UAE Vision 2021 Indicators**

*Adapted from UAE Vision 2021*

<b>Indicator</b>	<b>Definition</b>	<b>Source</b>	<b>Results</b>	<b>2021 target</b>
Average TIMSS Score	An indicator that reflects the nation's ranking and score in the TIMSS test, which evaluates the math and science skills of students in grades 4 and 8	International Association for the Evaluation of Educational Achievement	Rank 23 of 42 (2011 report)	Among the top 15 countries
Upper Secondary Graduation Rate	An indicator that measures the percentage of national students graduating from secondary education out of the population in the age group of 18 years (measured as the number of graduates, regardless of age, divided by the population aged 18 years)	Ministry of Education and The Federal Competitiveness and Statistics Authority	86.16% (2014)	90%
Enrollment Rate in Preschools (public and private)	An indicator that measures the percentage of children between the age of 4 and 5 who are enrolled in preschools (This indicator emphasizes the importance of providing children with a good foundation at an early age)	Ministry of Education and The Federal Competitiveness and Statistics Authority	87.95% (2014)	95%
Average PISA Score	An indicator that measures the country's ranking and scores in the PISA exam, which evaluates the reading, mathematics and science skills of 15 year old students.	Organization for Economic Co-operation and Development	Rank 46 of 65 (2012 Report)	Among the top 20 countries
Percentage of Students with High Skills in Arabic, According to National Tests	An indicator that measures the share of ninth grade students with high skills in the Arabic language (reading, writing, spelling) according to national tests. The indicator covers students in public and private schools applying the Ministry of Education curriculum (NKPI specific to UAE)	Ministry of Education	58.85% (2014)	90%
Percentage of Schools with High Quality Teachers	An indicator that measures the percentage of schools that meet certain quality standards of teachers based on a clear system of measurement and evaluation.	Ministry of Education	Work in progress	100%
Percentage of Schools with Highly Effective School Leadership	An indicator that measures the percentage of schools that achieve high scores on effective school leadership based on the school accreditation system.	Ministry of Education	26% (2013)	100%

## **1.5 Education System in UAE**

Education is promoted as a fundamental element for the development of the UAE and as the best investment in its youth, who are the future builders and savers of the country. The educational strategy of the UAE emphasizes that students practice a productive role in national development (UAE Report on Sustainable Development, 2002). Education earlier to 1960 was in form of Islamic and Arabic informal education. Further information on the education system in UAE is presented in Chapter 2, section 2.2.

## **1.6 Study Design**

The study used a mixed method approach involving the collection of both qualitative and quantitative data to evaluate gifted education at seven governmental primary schools in Dubai. Mixed methods research was selected due to its methodological flexibility, which allowed for combining several types of data to address complex research questions (Creswell, 2014). The complex research questions required (1) understanding what policies are in place to support the provision of services offered for gifted students; (2) understanding how giftedness is defined, and how the gifted students are identified in order to be served; (3) defining what programs are offered for gifted students, and explaining how they implemented and (4) recommending what is needed in order to improve the provision of gifted education in order to contribute to the development of the UAE.

The quantitative and qualitative data used to address the research questions were collected sequentially in five stages: (1) official documents analysis (2) cross-sectional questionnaire survey; (3) classroom observations; (4) parents' focus groups;

and (5) interviews with school staff. The analysis of the data required triangulation to compare and contrast the quantitative and qualitative components and to test their consistency across the participating schools (Denzin, 1997).

Onwuegbuzie & Teddlie (2003, p. 379) asserted “researchers undertaking mixed methods techniques should seek to defend explicitly the approaches they are employing”. The researcher’s defence is that the mixed method approach used in this study was justified, because the research questions were very demanding, and required a broad methodology, involving the use of a wide range of research tools. Research approach and design is discussed in chapter 3 section 3.4 and 3.5.

### **1.7 Rationale for the Study**

The rationale for evaluating gifted education programmes in Dubai is that equality of education is a major issue in the UAE, and more research is required to support educational reform. The findings of this study will help the UAE to achieve its educational strategic goals, contributing toward the UAE Vision 2021, which emphasizes the creation of a first-rate education system (UAE vision, 2021).

Equity in education started in the UAE in 2008, when the special needs department in the MoE extended its services’ umbrella to cover gifted students as well as students with disabilities (Abood, n.d.); however, in the last sixteen years, these programmes have not been comprehensively evaluated. Although gifted education has been studied worldwide, the literature published on gifted education in the Arab region is very limited (Al-Hadabi, 2010; Dwairy, 2004; Elhoweris, 2008; Elhoweris, 2014; Elhoweris, 2009; Sarouphim, 2010). Several unpublished dissertations

submitted in requirement for a Master's degree from the British University in Dubai (BUiD) concluded that gifted education needs to be developed and enhanced in the UAE (Allana, 2010; Al Obaidli, 2006; Ibrahim, 2008; Rahmanian, 2009). Consequently, the findings of this study and its recommendations will help to enrich the literature on gifted education.

### **1.8 Scope of the Study**

Nevo (1994, p.184) propose, “a broader examination of giftedness issues is necessary to channel our future debates productively”. However, the scope of this study was restricted to gifted education programmes offered at seven governmental primary schools in Dubai. A literature review was conducted to identify similar research using several databases; however, limited relevant literature could be found.

### **1.9 Significance of the Study**

The researcher believes that the main significance of the current study is that it is the first to evaluate the implementation of gifted education using NAGC criteria at primary schools in Dubai using an investigative multiple case study design with a mixed methods approach.

The results of this study will be of significant benefit to: (a) primary teachers and school administrators in Dubai, to make them more aware of the challenges they face when implementing gifted education programmes, and to show them how the delivery of educational services to gifted students could be improved in the future; (b) gifted students in Dubai, who will benefit from the future directions proposed in this study, and (c) future researchers, who may use the insights gained in this study as the

basis for similar studies to evaluate gifted education programmes in Dubai and elsewhere. (d) Stakeholders and decision makers at the MoE level, to make them aware of the implementation status of the gifted programs in Dubai and help them take educational decisions based on research's insights and recommendations.

### **1.10 Assumptions**

The main assumption of this study was that the data collected using the mixed methods approach was valid and reliable. The researcher assumed that the participants answered the questions to the best of their ability and provided credible and dependable data describing what they believed to be true, without bias. This assumption was justified when the participants were accredited professionals with a vested interest in the outcomes of this study; nevertheless it is possible that data could be contaminated by response bias, because not all respondents necessarily report the truth when responding to self-report instruments (Paulhus, 1991).

### **1.11 Organization of Chapters**

The current study is organized in five chapters. Chapter one introduced the study, including a background to gifted education in the UAE, the aims and objectives, and the study design. Chapter two is a review of literature on gifted education. Chapter three describes and justifies the use of a mixed methods approach. Chapter four presents the results of the study. The research findings are discussed in Chapter five, including recommendations for improving gifted education in the UAE.

## **CHAPTER TWO: REVIEW OF THE LITERATURE**

### **2.1 Introduction**

The purpose of the literature review is to provide an empirical and theoretical framework to support the current research with regards to gifted education. The chapter starts with a review of the education system in the UAE. This is followed by several theories that comprise the conceptual framework underpinning gifted education programmes. A summary of the history of gifted education is then presented, with emphasis given to gifted education programmes. That is followed by presentation and discussion of various definitions of giftedness. Subsequently, Identification issues associated with programmes offered for gifted students are discussed followed by programmes for gifted students. Then a discussion about the evaluation of gifted education programmes followed, including the NAGC standards. A consideration of the teachers' preparation and training for gifted education is followed next. Finally, the policies and regulations regarding gifted education are reviewed, followed by a general conclusion drawn from the reviewed literature.

### **2.2 Education System in UAE**

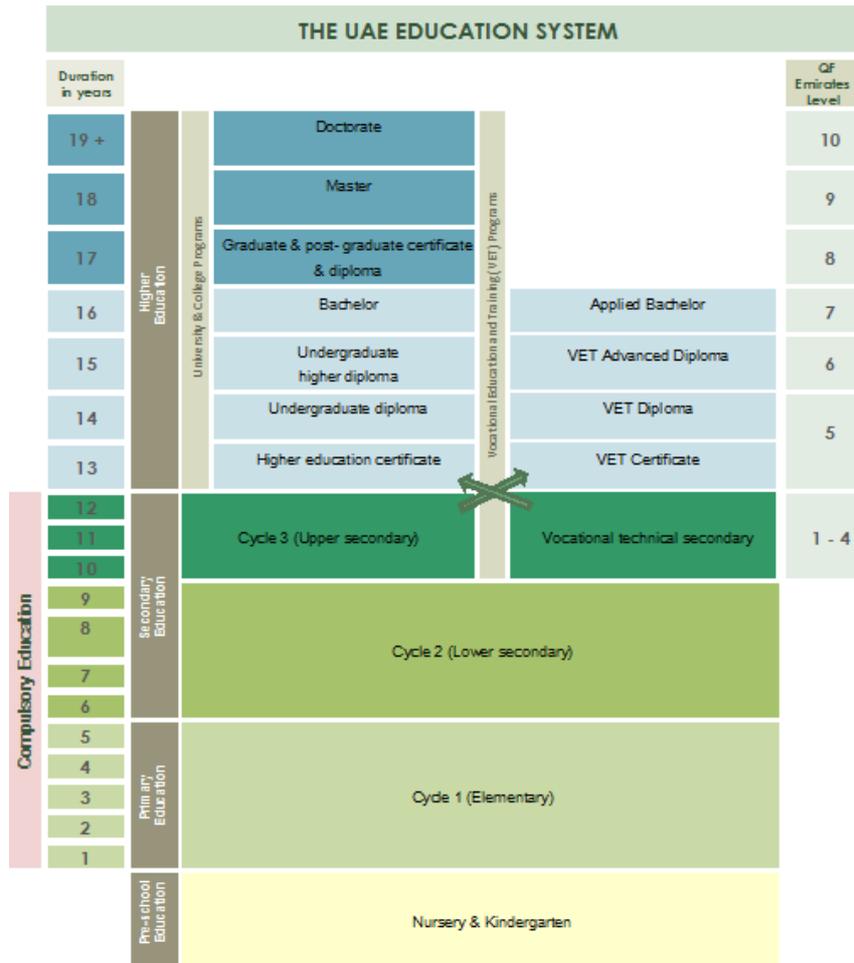
Education is one of the highest priorities for social development in the UAE (NQA, 2013). Educating students is the responsibility of the MoE, which works towards providing 'educational excellence' for all students from kindergarten to grade twelve (Godwin, 2006, p.1). The UAE Vision 2021, calling for a first-rate education system, is translated into the initiatives that the MoE adopted in its 2015-2021 development plan.

The UAE Vision (2021) grants equal educational opportunities for all Emiratis. It emphasize “a progressive national curriculum that will extend beyond rote learning to encompasses critical thinking and practical abilities... as well as high scores on standard international examinations”. The education of national Emirati students is free and compulsory (Godwin 2006). The UAE constitution and federal law no. 11 (1971) stated that education is compulsory in the primary stage, however, a new law was introduced and raised the age to 18 years old or Grade 12 (NQA 2013). Education in the UAE is either (a) governmental, which is mainly for UAE nationals; or (b) private, which is mainly for foreigners (Gaad et al., 2006). The schooling period extends to twelve years from grade one to twelve plus two years preschool or kindergarten. See appendix 9/2 for illustration of education system in the UAE. There are three phases called “cycles” or “stages” in UAE educational terminology, as outlined in Figure 2.1.

Dubai as all of the emirates follow the educational system provided by the MoE and illustrated above. Cycle or stage 1 comprises grades 1 to 5 of elementary education. Cycle or stage 2 includes grades 6 to 9 of lower secondary education. Cycle or stage 3 covers grade 10,11 and 12 of upper secondary education. Statistics of education component for the academic year 2014/2015 shows that there are 1215 government schools all over the UAE. Out of them 240 schools are in the first stage or elementary schools, see appendix 9/1 for more details. Recent statistics show that there are 41,406 classrooms in all existing governmental schools in the UAE. Out of them there are 17,144 classrooms in elementary stage 1. As for the teaching, administrative & technical staff there is total of 29,690 persons. Out of them working in stage 1 which equals to 9,535 staff members. Students’ statistics at the same year

shows that there are 961,607 students all over the UAE. Out of them 410,094 are students in stage 1. As for Dubai, it has total of 78 schools, out of it 24 schools are in stage 1. Female schools are 9 schools in the Emirate of Dubai.

**Figure 2.1 The UAE Education System**



Dubai has total of 1,213 classrooms in which 475 classes are in first stage schools (elementary). Statistics shows Dubai has a total of 29,261 students in all stages, out of it there are 171,323 students in stage 1. Number of gifted students as published by MoE is above 8000 students. However, it was not included in the Federal Statistics of UAE.

Special education has benefited from rapid development in the UAE by serving gifted students as well as those with disabilities. A special needs section was formed within the Department of Social Welfare at the MoE in 1979-1980 to serve only students with disabilities. Since then, the number of special classes has increased rapidly (Abood, n.d.) as a result of the federal law no.29 (2006) and the amended no.14 (2009) concerning the rights of disabled persons (Ministry of Education, 2010 & Ministry of Social Affairs, 2006; 2009). In 2000 the MoE started offering gifted education programmes at government schools, nevertheless, there was no law regulating the services provided for gifted students (Abood, n.d.). The provision for gifted education has developed in the last fifteen years, including initiatives for innovation and creativity. The year 2015 was declared as the year of innovation, and the MoE has provided seven new initiatives related to innovation, which help to support gifted education. A detailed section about gifted education in the UAE can be found in section 2.5.

Beside the MoE, there are several other organizations in Dubai that implement programmes for gifted students in the community. The two most prominent organizations are (a) the Hamdan Bin Rashid Al Maktoum Award for Distinguished Academic Performance; and (b) the Emirates Association for the Gifted. The first is a non-profit organization in Dubai. Its activities vary from rewarding the excellent performance of students, teachers and administrators, to providing programmes for the gifted students. By the year 2006, this organization adopted a national plan for nurturing gifted students, supported by German scholars from Ulm University in Germany. The plan consisted of seven components: (a) identification; (b) gifted programmes; (c) guiding and counselling for the gifted and their parents; (d)

professional development in gifted education; (e) awareness campaign to raise the awareness of the gifted programs in the society; (f) Hamdan centre for creativity and innovation; and (g) Hamdan incubation schools and partnership with gifted oriented entities inside and outside the country (Hamdan Bin Rashid Award, 2015).

The second organization is the Emirates Association for the Talented, which follows the Dubai Police Headquarter and works mostly in the summer breaks by identify gifted students and offer them summer programs (Dubai police). Other agencies that support gifted education include the Abu Dhabi Education Council (ADEC) established in 2005 (ADEC, 2011) and the Knowledge and Human Development Authority (KHDA) in Dubai created in the year 2006 (KHDA, 2011). Both agencies were created to meet the development goals of each emirate and both of them oversee the education system in their emirate. Many new regulations were created in all of them; however, due to the short time limitation, all other agencies except for MoE were excluded from this study.

### **2.3 Conceptual Framework**

A conceptual framework consists of the theoretical foundation that underpins a field of research (Cohen et al., 2007). Theory should ideally guide practice, and practice should be a source of theory. (Creswell, 2014) implying that the theory and practice of gifted education should inform each other. Kurt Lewin, the founding father of social psychology asserted, “There’s nothing so practical as good theory” implying that good theory guides effective action including a well-defined approach to research and its applications (Burnes, 2004).

The following sections contain descriptions of five theoretical models of relevance to gifted education, specifically: (1) Vygotsky's Sociocultural Theory; (2) Bandura's Social Cognitive Theory; (3) Renzulli's Three Ring Conception of Giftedness; (4) Gardner's Theory of Multiple Intelligence; and (5) Gagné's Differentiated Model of Giftedness and Talent. Those theories were chosen for their relation to major aspects in the current study: (a) giftedness concepts and (b) gifted programs. Conception of giftedness is related to Renzulli's Three Ring Conception of Giftedness and Gagné's Differentiated Model of Giftedness and Talent. Where as gifted programming is related to Vygotsky's Sociocultural Theory, The Zone of Proximal Development and Gardner's Theory of Multiple Intelligence.

### **Vygotsky's Sociocultural Theory**

Although not directly focusing on gifted students, Vygotsky's classical (1962) sociocultural theory is *relevant* to gifted education because it posits that culture contributes to the cognitive development of children (McGlenn-Nelson, 2005). According to Zimmerman and Schunk (2003 as cited in McGlenn-Nelson 2005) Vygotsky's theory, which highlights the importance of language and social interaction, is fundamental to explain the development of learning. The sociocultural theory emphasizes the social aspects of human experience rather than the individual aspects. It highlights that close interaction with others is essential for successful cognitive development in childhood. Vygotsky also introduced the concept of the zone of proximal development defined as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (Vygotsky, 1978, p. 86).

The sociocultural theory has practical applications for gifted education in schools. Firstly, it supports teachers using cooperative learning exercises, or scaffolding, whereby less competent children acquire and develop knowledge and skills with help from their gifted peers (Dixon-Krauss, 1996). Furthermore, Vygotsky's concept of the zone of proximal development can guide "the field of gifted education in terms of assessment, individualizing, learning, monitoring progress, and addressing the social and emotional needs of gifted children" (McGlenn-Nelson, 2005, p. 50).

### **Bandura's Social Cognitive Theory**

Social cognitive theory developed by Bandura (1989) explains how children acquire and develop certain behavioural patterns, and provides a framework for designing, implementing and evaluating programmes for special education students. The social cognitive theory defines learning as a constant interplay between behaviours, environmental factors, and personal factors. Bandura proposes that this interplay is the process through which people create the beliefs and the standards that shape their lives. According to Bandura's theory, the complex interactions that develop between behaviour, cognition and environment, provide the rationale for providing special educational services for gifted students as well as those with disabilities. The social cognitive theory also justifies exploring the behaviours of teachers and students in classroom environments to provide insights into the implementation of special education.

### **Renzulli's Three-Ring Conception**

Renzulli's (1986; 1998) Three Ring Conception posits that giftedness is expressed as a phenomenon, which can be defined in terms behavioural traits. The three ring model highlights the interactions that develop between three human traits; specifically (a) above average ability; (g) a high level of task commitment; and (c) a high level of creativity. These three traits are not equally represented, but are exhibited in variable proportions. They do not remain static, and there is no ideal combination of traits. The practical application of Renzulli's model is that it allows students to be identified as gifted without the use of formal testing. The model implies that students may be identified as gifted, even though they do not perform well on formal assessments of academic ability, including intelligent tests. Renzulli's model identifies students as gifted if they are highly motivated and creative, and if they have acquired and developed advanced knowledge and skills in special interests, including culturally valuable activities such as art, dance, music, and sport.

The three-ring model does not identify students as gifted unless they excel in a particularly area of interest, even though, intrinsically, they may possess above average task motivation and creativity. If students are not stimulated to develop and acquire knowledge and skills in particular areas of interest, then their giftedness will not be realized or manifested. Nevertheless, Renzulli's model may have practical applications in schools, when used in conjunction with other models of giftedness, based on data collected from other sources, to identify a student's level of giftedness (Chaffey, 2004; Renzulli & Reis, 1993).

### **Gardner's Theory of Multiple Intelligences**

Different theories related to intelligence have been associated with research on gifted education. According to Plucker (2001, p.124), “the study of giftedness has closely paralleled the study of intelligence”. Consequently, scores on intelligence (IQ) and other ability tests were initially used to identify gifted students. The IQ test as an indicator of giftedness resulted in fixed gifted education programmes for all gifted students; however, such programmes did not benefit all gifted students, because each student had his or her own personal unique gifts and needs (Feldhusen, 2001). Gardner's (1983; 1993; 1999) theory overcomes that issue, because it posits giftedness as a multidimensional phenomenon, consisting of different categories of intelligence. Although they are related to each other, the different categories of intelligence are not necessarily connected to a single IQ score.

Gardner proposed the following eight intelligences: (a) logical/mathematical; (b) verbal/linguistic; (c) visual/spatial; (d) bodily/kinaesthetic; (e) musical/rhythmic; (f), interpersonal; (g) intrapersonal; and (h) naturalistic intelligence. Each category of intelligence defines a special ability, talent, or skill, which allows a student to maximise his or her potential in different areas of achievement. Every child possesses aspects of different types of intelligence to varying degrees, and different ways of learning tend to favour some types of intelligence better than others.

Fasko (2001, p. 31) suggests that “an individual's unique cognitive structure is based on the combination of these intelligences, and claims that the theory of multiple intelligences appeals to many educators because of its comprehensiveness and simplicity, and it seems to fit well with the identification and instruction of gifted and

talented students”. Although the theory of multiple intelligences may provide a structured framework for educators to understand how students learn and what makes them learn. However, identifying which category of intelligence that a child favours is not simple. For example, multiple intelligences cannot be identified using traditional IQ or other formal assessment tests (Maker, Nielson, & Rogers, 1994 as cited in Fasko, 2001). Le Sueur (2002) strongly argued that Gardner’s theory is not applicable to meet the unique needs of gifted students. Providing exactly the same learning experiences for all students who are strong in a particular category of intelligence does not necessarily guarantee that the needs of gifted students are being met. It is evident that additional theories must be applied to differentiate the school curriculum for gifted students. Consequently, similar to Renzulli’s (1986) theory of giftedness, Gardner’s theory of multiple intelligences is best used in conjunction with other theories.

### **Gagné’s Differentiated Model of Giftedness and Talent**

The differentiated model proposed by Gagné (1992) is an extension of Renzulli’s (1986) three-ring model of giftedness because it differentiates between the two domains of giftedness and talent. Gagné suggested that giftedness refers only to a child’s natural abilities, which may not be manifested, whereas talent is the realization or manifestation of giftedness. Gagné’s model proposes that children must have access to external stimuli or catalysts in order to build upon their natural abilities and to realize or manifest their talents. Gifted children enhance their natural abilities to develop talents through the intervention of intrapersonal and environmental catalysts. Gagné’s model is therefore an improvement on Renzulli’s model because it allows for children who possess natural abilities, but have not yet manifested or realized them as

a talent. Gagné's model recognizes that giftedness may develop by chance, depending on the access of children to beneficial interventions. The practical application of the differentiated model of giftedness and talent is that it acknowledges that teachers may intervene, and act as catalysts to promote movement between the domains of giftedness and talent. Gagné's model implies that teachers must bear the responsibility to nurture the talent of gifted students. Accordingly, Freeman (1999, P.90) argued that:

It is clear from the evidence that excellence does not emerge without appropriate help....To reach an exceptionally high standard in any area, potentially gifted children need the means to learn; this includes the material to work with and focused, challenging tuition, sometimes including tutoring or mentoring that is not provided in normal schools.

#### **2.4 NAGC Gifted Programs' Standards**

The National Association for Gifted Children (NAGC) pre-K-Grade 12 gifted programming standards were first introduced to reform gifted education in 1998. These standards were structured into seven dimensions: (a) programme design; (b) programme administration and management; (c) socio-emotional guidance and counselling; (d) student identification; (e) curriculum and instruction; (f) professional development; and (g) programme evaluation (Johnsen, 2006). In the next decade, the NAGC standards were revised. The revised NAGC (2010) standards incorporated evidence-based practices derived from research on gifted education. See appendix 10/1 for a copy of NAGC 2010 gifted program standards. The standards reflected the recent movement toward accountability based on student outcomes. Furthermore, the revised standards used broader definitions of diversity, including cultural, linguistic, intellectual, and sexual orientation; (Johnsen, 2012). The revised standards also emphasized the importance of partnerships between administrators, teachers,

counsellors, and other instructional staff in order to address the needs of gifted students. Strong relationships between gifted education, general, regular, or mainstream education, and special education were recommended in order to implement a differentiated curriculum for all students (Coleman & Johnsen, 2011). The following table compare both versions' components:

**Table 2.1 NAGC's 1998 & 2010**

1998 NAGC Pre-K–Grade 12 Gifted Program Standards	2010 NAGC Pre-K–Grade 12 Programming Standards
1. Student Identification	1. Learning and Development (combined 1998 Gifted Program Standards #3)
2. Professional Development	2. Assessment (combined 1998 Gifted Program Standards #1, #4)
3. Socio-Emotional Guidance and Counselling	3. Curriculum Planning and Instruction (combined 1998 Gifted Program Standards #7)
4. Program Evaluation	4. Learning Environments
5. Program Design	5. Programming (combined 1998 Gifted Program Standards #5, #6)
6. Program Administration and Management	6. Professional Development (combined 1998 Gifted Program Standards #2)
7. Curriculum and Instruction	

The purpose of the NAGC (2010) standards is to (a) prescribe evidence-based practices for the implementation of gifted education programmes; (b) to provide a structure for defining and developing policies, rules, and procedures for gifted education programmes; (c) to support practices that are the most effective for the development and assessment of gifted students, and the evaluation of gifted education programmes; and (d) to provide a guide for the professional development of teachers

specializing in gifted education. As well as a framework to underpin pedagogy, the NAGC standards may also be used to underpin research in gifted education providing a rationale and direction for the current study (Johnsen, 2012). NAGC 2010 gifted programmes standards were used as a framework for this study, more details and justification is will be found in section 2.10.

Standard 1: Learning and Development prescribes that to enhance the education of gifted students, school administrators and teachers must understand the characteristics and needs of gifted students. They should plan their curriculum, assessments, programmes, and services around these needs. Standard 1 provided the rationale for the differentiation or grouping of education specifically to meet the needs of gifted students. It required teachers to provide specialized interventions based on research evidence to match the socio-emotional and cognitive development, strengths, abilities, interests, and goals for higher education and career of each individual gifted student.

Standard 2: Assessment, prescribes that it is essential for school administrators and teachers to understand the multiple types of differentiated assessments that are needed to evaluate the performance of gifted students from diverse backgrounds. The multiple assessments should not only include the identification of giftedness, but also a continuous evaluation of the growth of gifted students, in order to demonstrate their advanced level of learning.

Standard 3: Curriculum Planning and Instruction, prescribes that information collected using multiple types of assessment should be used to make informed

decisions about the curriculum content, instructional strategies, and the resources required to support the growth of gifted students. The curriculum should be specifically designed to be challenging and effective for gifted students, including opportunities for the students to explore and develop their special areas of interest and talent. In order to meet the needs of gifted students, the curriculum should be delivered using evidence-based instructional strategies and use culturally sensitive practices that will enhance the learning and develop the talents of gifted students.

Standard 4: Learning Environments, prescribes that school administrators and teachers should create learning environments for gifted students that “foster emotional well-being, positive social interaction, leadership for social change, and cultural understanding for success in a diverse society” The learning environments should encourage “independence, motivation, and self-efficacy” (NAGC, 2010, p. 6).

Standard 5: Programming, referred to all of the services that school administrators and teachers can implement to support the development of gifted students. Programming options include acceleration, enrichment, individualized learning, distance learning courses, online courses, and other out-of-school educational resources. Programming also referred to the collaboration between the school, the parents, and the local community outside the school to ensure that the diverse learning needs of gifted students’ were met. Administrators were encouraged to support programming options by allocating sufficient resources.

Standard 6: Professional Development, referred to the formal improvement of professional expertise and ethical practice among teachers specializing in the field of

gifted education. Such professional development may include “district-sponsored workshops and courses, university courses, professional conferences, independent studies, and presentations by external consultants, and should be based on systematic needs assessments and professional reflection.” (NAGC 2010), p. 8). Teachers need to receive training in gifted education that enables them to recognize the characteristics of giftedness, to understand the identification process, and deliver differentiation strategies that challenge gifted students.

## **2.5 History of Gifted Education**

Paying attention to giftedness is not new, and has been conducted since ancient times. Military skills were seen by the ancient Greeks as giftedness for promotion to upper social positions and was determined by gender. Plato believed in an intellectual elite and claimed that higher education should be only assigned to those with natural academic gifts. Moreover, in Rome boys were favoured and assigned to careers in engineering, law, and administration (Davis & Rimm, 2004). The ancient Chinese used high multiple talent scores to identify giftedness. In Japan giftedness was identified among persons with high social position related to an intellectual score. On the other hand, in Europe giftedness was associated with persons who excelled in theatre, math, science and art.

According to Davis & Rimm (2004) the first systematic efforts in public schools to provide educational services for gifted students occurred in 1868 by William Torrey Harris who was the superintendent of public schools for St. Louis in the USA. Francis Galton in 1869 introduced the theory of Hereditary Genius which proposed that intelligence was passed from one generation to the next (Delisle, 1999).

In 1901 the first special school for gifted children was opened in Massachusetts by Worcester. In 1905, Binet and Simon introduced tests to identify children's intelligence for placement purposes at school. They were the first to translate intelligence into a numeric outcome. Henry Goddard in 1908 introduced the Binet-Simon test in America and translated it into English (Hargrove, 1999). Lewis Terman who appears to be the father of the gifted education changed the face of American education by introducing the Stanford-Binet intelligence test in the year 1916. When the USA entered the First World War in 1917, the Army Alpha and Beta tests were created to select the members of the army according to their abilities. These tests were administered to form the desired army. In 1918 Lulu Stedman established the 'opportunity room' for the gifted students at the University Training School at the Southern Branch of the University of California. Later on, in 1921 Lewis Terman started the first longitudinal study on gifted children. In 1922, Leta Stetter Hollingworth opened the second opportunity class for gifted students in New York. Hollingworth benefited the field of gifted education by her research articles and books. In 1925, Lewis Terman published the result of his study "Genetic Studies of Genius". In 1926, Leta Stetter Hollingworth published the first textbook on gifted education called "Gifted Child: Their Nature and Nurture" In 1936 she established the Speyer School for gifted students of age 7 to 9 years old.

The 1944 G.I Bill provided college access to Second World War veterans to pursue their higher education because they were perceived to be a gifted population. In 1950, Guilford challenged the intelligence scores as a multidimensional construct and in the same year federal support was permitted for research and education in mathematics, physical, science and engineering. In 1954 the National Association of

Gifted Children (NAGC) established the NAGC to support gifted education. Moreover, the launch of the Sputnik in 1957 by the Soviet Union enhanced gifted education in the USA (Sayler, 1999). The USA re-examined their education system and allocated funds for gifted education. In 1958, the National Defence Education Act was passed which was the first effort by the government to favour gifted education in the USA (Roberts, 1999). In 1964 the Civil Rights Act was passed and ensured equality of opportunities in education for all children including gifted students. In 1972, the first formal definition of giftedness was created and represented in the Marland Report. Joseph Renzulli in 1983 introduced the School wide Enrichment Model, which stimulated more gifted education in the USA. In the same year a report was published called "*a Nation at Risk*" highlighting the failure of American students to compete with international standards. In the same year, Gardner (1983) started his studies on giftedness. Sternberg introduced the theory of intelligence in the year 1986; in addition, he formed the conceptions of giftedness in the same year. In 1988, the congress passes the Jacob Javit Gifted and Talented Students Education Act, which reauthorized the elementary and secondary education Act. In 2002, Gardner reframed the multiple intelligence theory. A report was published in 2004 called "*A Nation Deceived*" which researched acceleration strategies for advanced learners indicating the USA held back their most gifted students. Subsequently, the gifted education field has developed rapidly.

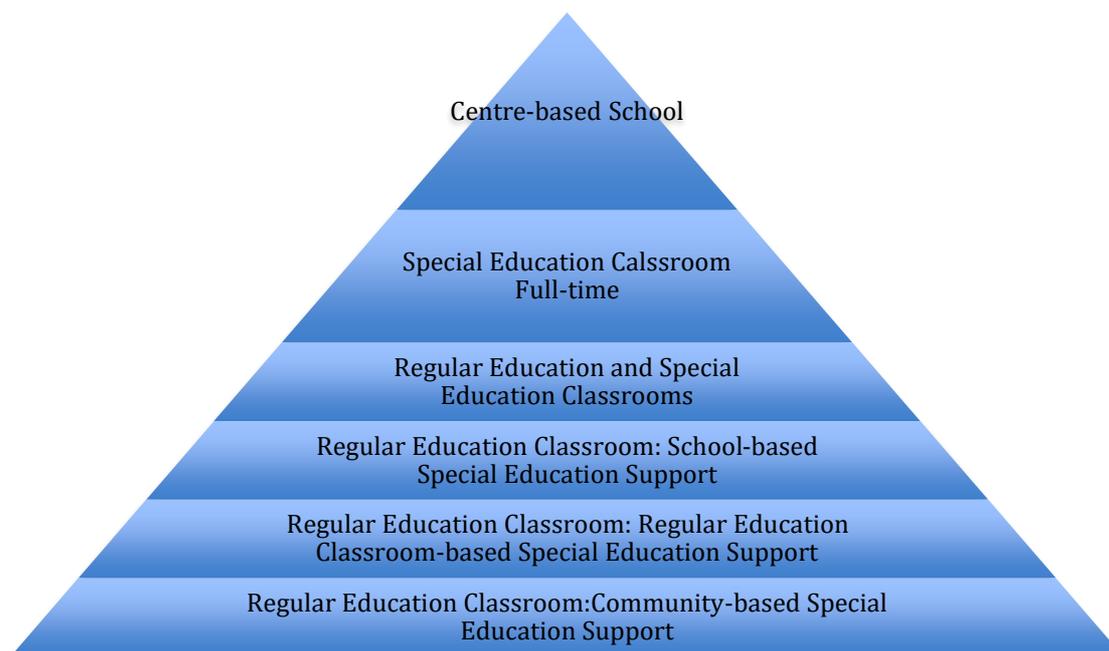
## **2.6 Gifted Education in the UAE**

Gifted education is currently part of special education in the UAE. Special education in the UAE started in the year 1979/1980 by segregating students with less obvious disabilities into a special class in the mainstream schools. Students with

obvious disabilities such as Down's syndrome were sent to special centres for disabled persons under the supervision of the Ministry of Labour and Social Affairs (Bradshaw et al., 2004; Gaad, 2010). This situation has changed since the passing of new federal law no. 29/2006 for the rights of persons with special needs its amended version no. 14/2009 promoted the philosophy of inclusion and stressed appropriate education for all students (Ministry of Social Affairs, 2006; 2009). Moreover, the law gave the responsibility of educational identification, proper curriculum, teaching aids, alternative teaching strategies, integrated environment and technologies to the MoE. The Federal Law's no. 29 (2006) article 12 states that "the state shall guarantee to provide for a person with disability equal educational opportunities in all educational institutions, vocational training and continuing education in regular classes or special classes where necessary. The academic curriculum may be delivered in Braille or sign language or any other method as the case may be. The law states that disability does not represent an obstacle preventing an individual from applying to or joining any government or private educational institution of any kind". This law was issued as a result of signing the optional Protocol to the United Nations (UN) Convention on the Rights of Persons with Disabilities. To activate the federal law no. 29/2006 and its amended version no. 14/2009 the MoE issued several regulated ministerial decisions to promote inclusion of all students. For example, Ministerial Decision no 166 in 2010 provided for special education in public and private school. Ministerial decision no 188 in 2010 promoted the initiative "School For all". School for all is a strategic initiative created by MoE to better serves gifted students. To legislate and regulate MoE's initiatives and projects with regards to gifted education in the country, The MoE publish a guideline in May 2010 to regulate and work as a framework called "The General Rules for the Provision of Special Education Programmes and Services"

for public and private schools. The guidelines outlined the special needs programmes and services are presented in Figure 2.2.

As a response to the law, the MoE started integrating different disabilities in the school system and issued general guidelines for the special education services. In order to ensure that no school can refuse any child with special needs from admission it set out criteria for services provided to those students. Before these guidelines the MoE piloted the inclusion of different categories of disabilities in schools by the year 2007/2008 (Alghawi, 2008). Such categories include students with Dyslexia, Learning Difficulties, Physical Disabilities, Down Syndrome, Developmental Delay, Autism and Attention Deficit Hyperactivity Disorder (ADHD).



**Figure 2.2 Special education programmes**

(Adapted from The General Rules for the Provision of Special Education Programmes and Services, 2010 p. 15).

The UAE 2021 vision ensures equal access to education for all students regardless their abilities or disabilities (UAE Vision, 2021). The MoE reflected this vision by ensuring the goal of equal opportunities in education for all students. The MoE worked continuously towards achieving its goals of providing equal opportunities for students including those with special needs. It created different programmes for all students; gifted students, students with disabilities and those who tend to fall in the normal category. The MoE has the sole responsibility to educate gifted students by providing them with appropriate educational programmes.

Abood (n.d.) summarized the history of gifted education in the UAE in his book published by MoE. The subsequent section summarized the data Abood obtained from interviews conducted with a decision maker from the MoE and access to relevant documents in the MoE represented by Department of Special Abilities. According to Abood special education provision in the MoE was presented by a Section of Special Needs under Social Department. Special needs education started in the year 1979/1980 by opening four special classes. The number of classes for students with special needs subsequently expanded. These classes served students with disabilities, mostly learning disabilities or learning difficulties. However, recently inclusion has been introduced to the education system after issuing the federal law for the persons with disabilities no .29/2006 and the amended one no. 14/2009. Students with disabilities gained the concern of the MoE, which created many programmes to help them fulfil their needs. On the other hand, gifted students did not get that concern from the MoE at the beginning. In the year 2000 the Department of Special Needs was reformed and became the Department of Special Abilities, which allowed for opening a new section for the gifted education

programmes. After that the department started serving a wide spectrum of special needs students with disabilities and giftedness in its two sections. New initiatives and programmes have been created to serve both categories to meet their needs and abilities. Until recently no clear policy or law existed to regulate those programmes and services until federal law no. 29/2006 and amended by the federal law no.14/2009 for the rights of the persons with disabilities. A study was conducted in the year 2004 on the status of gifted education at that time (Al Obaidli, 2006). The study concluded that although special education claimed to be progressing, gifted programmes were not clearly recognized at UAE schools nor policies exist to regulate it. The current study replicates Al Obaidli's research in assessing the progress of gifted programmes in the last decade.

Merry (2008) suggested that to ensure that gifted students have justice in education, they should get an appropriate education, which should challenge their abilities. That can be achieved by adopting an inclusive educational approach for all learners; highly able learners and learners with disabilities. The UAE translated Merry's suggestion into an initiative called "School for all". This initiative guaranteed equal education opportunities for all students regardless their abilities or disabilities. "School for all" is a strategic improvement initiative, which was created in response to international calls for inclusive education as form of equity in education. "School for all" is the umbrella that encompasses all special needs services for both highly able and students with disabilities. This is in line with the Ministry of Education's Strategy 2010-2020, which adopted a student-centric education model focusing on improving students' outcomes by achieving ten goals. "School for all" is associated with goal no. 6 in the MoE strategy 2010-2020, which is to "ensure that students with

additional needs receive extra and individualized support to integrate them into the educational system”. This goal strongly supports the principle of “equity in educational opportunities for all students” and fulfils the identified gifted students’ needs in the strategic plan of the MoE (Ministry of Education Strategy, 2010-2020).

To support the “School for all” initiative the MoE launched “The general rules for the provision of special education programmes and services” in May 2010. These rules aim to regulate all services provided for students with special needs whether they are disabled or highly abled. It consists of: a framework for inclusion, services and roles of whoever is involved in the inclusion practice and the educational consideration including the examination system for special needs students. “School for all” has been initiated basically to transform the Federal Law no. 29/2006 on the right of people with special needs into a real practice (Ministry of Social Affairs, 2006) which was later amended by law no. 14/2009 of the rights of people with disabilities. The Federal Law no. 29/2006 and its amended version no. 14/2009, is a reflection of the country’s constitution draft at 1971 that was amended in 1996 with the permanent one. Article 14 emphasises on social justice and equity for all citizens (UAE Cabinet, 2010). Equity in education is a fundamental right for all human beings and inclusion can be seen as a translation of this equity. According to Roach (1995 as cited in Bennett, Bruns and Deluca, 1997) inclusion can be defined as providing equal educational opportunities to all students regardless of their ability or disability. “School for all” included the gifted education services in it as gifted students are considered students with special needs due to their needs, which have to be met.

A set of implementation initiatives was created to achieve the strategic goal no. 6 which emphasizes the equity in education. In 2008 the MoE created the “development of gifted and talented students’ skills” initiative to better serve the gifted student in government schools. Two hundred and fifty schools joined this initiative since 2008 with total of 8081 gifted students benefited from the initiative. This initiative included training 200 teachers per year on identification and various gifted programs. More recently, in 2014 the MoE introduced a new initiative that is “integrated system to identify and care for talents“. It was a result of the UAE Government Cabinet retreat held in 2014 to better serve education. That retreat was a result of an Emirati brainstorming initiative, which was launched by His Highness Shaikh Mohammad Bin Rashid Al Maktoum, Vice-President, Prime Minister of the UAE and Ruler of Dubai (UAE cabinet, 2014). The number of schools serving gifted programmes is increasing year by year and it is now worth studying the provision of gifted education and the programmes’ effectiveness and progress.

The UAE government declared 2015 as the ‘Year of Innovation’ and developed the National Innovation Strategy, which aims to make the UAE among the most innovative nations in the world in time period of seven years (Ministry of Cabinet’s Affairs, 2015). Innovation is defined as “the aspiration of individuals, private institutions and governments to achieve development by generating creative ideas and introducing new products, services and operations that improve the overall quality of life” (UAE National Innovation strategy, 2015, p. 7). According to this strategy the key pillars are: innovation-enabling environment, innovation champions and innovation priority sectors. Several initiatives were developed to translate the Innovation Strategy into reality (e.g., MBRSLP Mohammed bin Rashid Smart

Learning Programme, Think Science programme, ACTVET programme and many others including innovation labs in schools and universities in addition to Specialized research centres in universities). In addition Hamdan Award launched UAE fab lab as a response to the national innovation strategy and declaration of year 2015 as year of innovation (Hamdan Award, 2015). Because innovations' national strategy is new and was launched after finishing the data collection stage of the current research, it was excluded from the current study. In addition the current study puts emphasis on evaluation and assessment of current running programmes rather than newly admitted programmes. The subject of innovation is considered for further research in the recommendation section of chapter 5.

Although the study focus on schools that are supervised by the MoE, a need emerged to discuss another entity in the UAE, which provide gifted programmes in government schools. The Hamdan bin Rashid Al Maktoum Award for Distinguished Academic Performance (Hamdan Award) is a non-profit organization. It was created by a decree issued on March 1998 by His Highness Shaikh Hamdan Bin Rashid Al Maktoum, Dubai Deputy Ruler and the UAE Minister of Finance. The Hamdan Award's scope of work was to contribute to raising educational performance by awarding prizes for distinguished teachers, students, schools, projects and families. By 2006 a National Plan for Nurturing Giftedness was created in cooperation with a German University with expert scholars in the field. The national plan for nurturing giftedness is a comprehension structure and framework to regulate gifted programmes provided by the Hamdan Award. The National Plan consists of seven programmes to nurture giftedness. The seven main programmes are: 1) identification of gifted students, 2) gifted programmes, 3) professional development, 4) awareness and

publication, 5) partnership with gifted organizations, 6) Hamdan gifted centres and 7) Hamdan gifted schools. Hamdan Award's accomplishments can be summarized as: creating identification tool for gifted students with cooperation with reputed German University, creating enrichment programmes, identifying gifted students, establishing Hamdan Gifted Centre and spreading the culture of gifted education in the educational society (Hamdan Award, 2015).

The Hamdan Award provides its programmes in school in collaboration with the MoE as an authority body with regards to school setting. In addition, the Hamdan Award provides enrichment programmes outside school during vacations and weekends. Such programmes started in the year 2012 and have been carried out until the current date with a total of three programmes per year. In addition a new Centre of Giftedness and Creativity has been launched as a response to the National Innovation Agenda of the UAE government (Hamdan Award, 2015). The Hamdan Awards' initiatives were excluded from this study apart from when evidence was found to demonstrate its effects on the schools. . Hamdan Awards national plan and different initiatives are being recommended in the recommendation section of Chapter 5 for further research.

## **2.7 Definitions of Giftedness**

The focus of this research was gifted education, defined generally as the schooling of students who exhibit giftedness. According to the National Association for Gifted Children (NAGC, 2011) gifted students not only possess high motivation and commitment for academic activities, but also excel in hobbies and interests, as well as exhibiting leadership skills, and high levels of responsibility and creativity

Because the current study was conducted in the UAE, giftedness may be generally defined by the UAE General Rules of Provision of Special Needs (2015, p. 22-23) as a student “having outstanding ability, or a great deal of willingness in one or more areas of intelligence, or creativity, or academic achievement or special talents and abilities such as oratory, poetry, drawing, handicrafts, sports, drama, or leadership capacity”. Such a generalized definition may not, however, be applicable to all schools in the UAE.

Giftedness is a complex multivariate concept, which has been defined in many different ways. Elhoweris (2014) stated “there is no universal consensus on the definition of giftedness” (p. 516). Mitchel & Williams (1987, p. 531) stated that “the definition of giftedness differ from nation to nation, as does the organizational structure of formal education”. McAlpine (2004) reported that researchers have identified 213 definitions of giftedness. The reason for so many different definitions is that the concept of giftedness varies with respect to the nature of the research, the time, the place, as well as social values and local cultural contexts.

In the context of gifted education, Moltzen (2004) suggested that each school may have its own definition of giftedness, and compiled lists of the characteristics of gifted students according to six major domains, or multiple intelligences, including general intellectual, creative, leadership, specific academic, visual and performing arts, and psychomotor abilities. The most modern definitions and perspectives of giftedness in the field of gifted education were reviewed by Hallahan (2012). Giftedness may be defined according to various perspectives including (a) the different types of giftedness or multiple intelligences exhibited by gifted students; (b)

the psychological and behavioural characteristics of gifted students; (c) how giftedness is measured; and (d) how giftedness is identified.

Hallahan (2012) defined three types of giftedness, termed analytical, synthetic, and practical. Analytical giftedness involves being able understand the different parts of a problem and how the different parts of a problem are related to each other. Synthetic giftedness involves the use of insight, intuition, creativity, and an ability to deal with novel situations. Students with synthetic giftedness usually have highly developed academic skills in the arts and/or sciences. Practical giftedness is a combination of analytical and synthetic giftedness, empowering people to solve both intellectual and everyday problems, and results in the acquisition and development of a variety of skills that people need to become successful in professional careers.

The psychological and behavioural characteristics of gifted children are defined by Hallahan (2012) as follows: (a) they develop ahead of their age in their peer group in some areas of academic performance, usually advancing quickly in certain areas (e.g., learning to read easily) but not necessarily in others; (b) despite superior intellectual development, their emotional development may be similar to their peers; and (c) they may become bored easily if they are not intellectually challenged. The different ways in which giftedness is measured or identified are defined using (a) IQ tests (which tend to measure analytical giftedness); (b) standardized achievement test scores and other measures of academic performance at school, as well as teacher and parent nominations, (which tend to measure synthetic

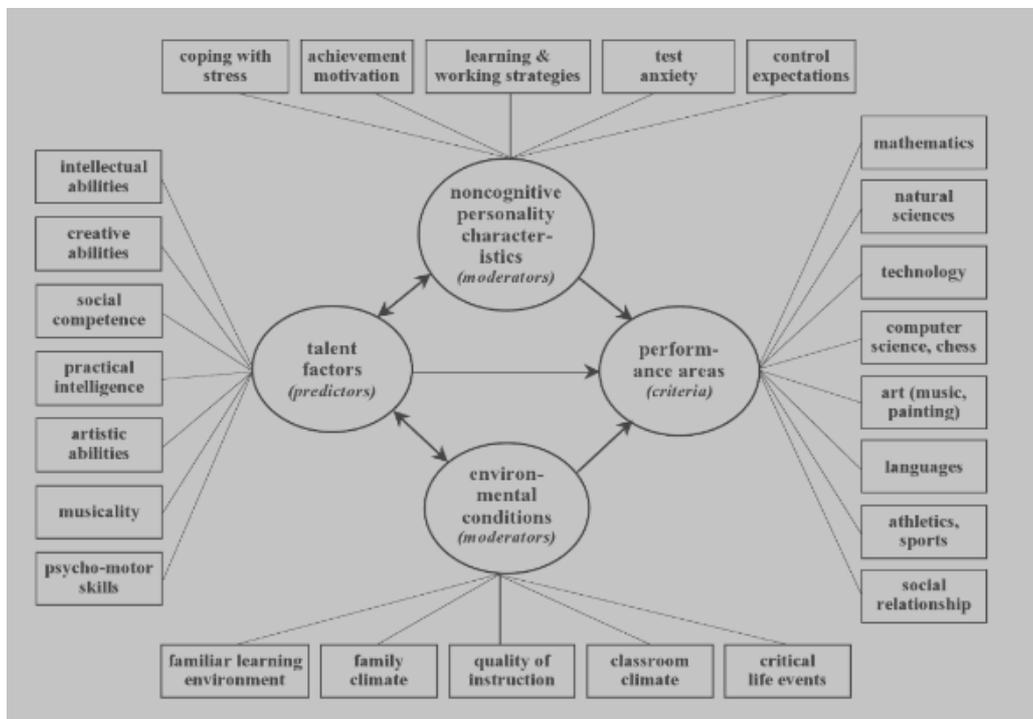
giftedness); and (c) evaluations of performance at work (which tend to measure practical giftedness). The next section considers how giftedness is identified.

## **2.8 Identification of Giftedness**

Elhoweirs (2014, p.516) stated “one of the most significant problems in the field of Gifted Education is the need for the development of appropriate identification procedures for gifted and talented students”. Grant and Piechowski (1999) argue that the development of gifted education needs to take into consideration the identification of the giftedness concept, intelligence types and social-emotional status of the gifted learners. Miller (2005, p. 172) stated that in order to better cater for the gifted students, it is necessary to identify them. Identification is an essential stage for any successful gifted programme. Kornhaber (1999, p. 144) mention several assessment tools to identify gifted students, which are “teacher referrals, student grades, achievement tests, and IQ tests”. Pfeiffer (2002) supported Kornhaber (1999) by recommending the use of multi-disciplinary assessments for gifted students. On the other hand, Brown et al. (2005) considered that the IQ test dominated the assessment of gifted students. Bracken (2006) agreed with Brown et al. (2005) that it was essential to use more than one assessment tool for the identification of giftedness. Furthermore, Kornhaber (1999, p. 143) suggested three “alternative assessments” to identify gifted students based on the theory of multiple intelligences. Kornhaber concluded that there is no link between the three assessment tools and the criteria for multiple intelligences theory.

Research paradigms involving multiple intelligences that are applicable for the identification of gifted students include the psychometric vs. the expert-novice

paradigms. The psychometric paradigm is incorporated into the Munich Model of Giftedness for the identification of gifted and talented students. A multidimensional concept of giftedness is posited based on personality traits associated with multiple intelligences (See Figure 2.5, from Heller, 2004). Eight performance area criteria are predicted by seven independent groups of talent factors. The relationship between the talent factors and the performance areas are moderated by five groups of non-cognitive personality characteristics, and five groups of environmental conditions.



**Figure 2.3 Munich Model of Giftedness (from Heller, 2004)**

The Munich Model of Giftedness is a prospective model, implying that its diagnostic utility for the identification of giftedness comes from its ability to predict multiple performance criteria. In contrast, the expert-novice paradigm is an alternative but complementary model of giftedness that focuses on an explanation of the process resulting in gifted performance rather than a prediction based on personality traits

(Sternberg & Davidson, 2005). The expert-novice model posits that giftedness is a process that can be explained and identified retrospectively by determining how the less advanced performance area criteria of a novice (e.g., a student) have developed progressively over time into the more advanced performance area criteria of an expert (e.g., a professor).

According to Clark (2002) schools need to implement search programmes using multiple criteria to identify students who are gifted, as follows: (a) Observe a variety of disciplines to identify gifted students; (b) Use a variety of tests and other assessments to identify who students who display high levels of ability in different ways and at different ages; (c) ensure that all students have equal access to all types of challenging learning opportunities; (d) use assessment procedures that allow for varying rates of maturity and interests; (e) search for students whose potential for giftedness manifests itself in diverse and less obvious ways; and (f) consider factors such as motivation, interest, drive, and passion to assess giftedness.

Bracken (2006) confirmed that many schools use multiple criteria tools for gifted students assessment and identification. The multiple assessments included IQ tests, academic achievement tests, teacher referrals, parent checklists and students' productivity. The rationale behind using more than one tool was to ensure the reliability of the results. Moreover, a gifted student can be gifted in one area but not necessarily in all. Using one tool for identification could, for example, neglect the talent domain. Multiple assessment tools discover which domain the gifted student scores best, and leads to the choice of a better programme for that student.

Identification is relatively new process in the UAE. Identification in the UAE uses several tools, including achievement scores, IQ scores, nomination checklists for teachers and parents, and student productivity. These tools are based on the US Department of Education definition for the identification of gifted students, specifically intellectual ability, academic ability, creativity, leadership and art (Marland, 1972). Based on these five criteria, several tests are being used to assess the gifted students in the UAE. These tests include the Stanford-Binet intelligence scale, the Wechsler intelligence scale for children, group intelligence tests, achievement tests and creativity tests, in addition to teacher, parents nominations and self-nominations.

Characteristics of gifted students connect closely with the identification issue in the gifted education field. Multiple tools are usually used in the identification process, which may include a checklist of the characteristics of gifted students or a teacher referral along with formal tests like the IQ and achievement tests. A more detailed example of how to identify a gifted student's characteristics was provided by Gaither (2008). This study was a detailed narrative story providing an in depth description of a single gifted student about the former experiences she went through. The conclusions were that the participant saw herself as a gifted student and perceived herself as different. Similarly other studies have been conducted to explore individual behaviours associated with gifted education (Vanderbrook, 2006; Hertzog, 2003; Graffam, 2006). Identifying gifted students help to cater for their individual needs and abilities by offering appropriate gifted education programmes. Proper identification of gifted students leads to appropriate placement on gifted education programmes in order to allow them to reach their potential and benefit their society.

## **2.9 Gifted Education Programmes and Strategies**

Tomlinson (2009) proposed the principle of high-quality gifted programmes as follows: philosophy, identification, acceleration and enrichment, learning expectations, guidance, curriculum, flexibility, staff development, and honouring academic talent. Davis & Rimm (2004) illustrated four components of gifted programmes, identification, instructions /strategies and programme evaluation. The gifted programmes and strategies are discussed in the following sections.

Bracken (2006, p.112) claimed that “identifying, placing, and providing appropriate services” has a significant effect on the education of gifted learners. In the gifted education system, many types of gifted programmes and strategies could be offered to gifted students based on their abilities, who usually tend to quickly master the curriculum in a regular classroom. According to many scholars in the field of gifted education different type of programme and strategies could be offered to gifted learners to enable them to meet their unique needs (Bishop, 2000; Schlichter and Brown, 1985; Duan et al., 2010; Foust et al., 2008; 2010; Hertberg-Davis, 2008; Perkins, 1985; Reis, 2009; Schlichter & Perkins, 1985; Sternberg & Grigorenko, 2002; VanTassel-Baska & Johnsen, 2007; Vanderbrook, 2006). These studies investigated different programmes and strategies to provide set of recommendations and judgments, which could be applied to develop successful programmes for gifted students. Such programmes and strategies may include but are not limited to: acceleration, enrichment, grouping, clustering, resource rooms, special classes and special schools, individualized learning options such as mentorship, internships, online courses and independent study. Such programmes may also include advanced placement, international baccalaureate, enrichment and differentiation.

### **Advanced Placement and International Baccalaureate**

Advanced placement (AP) and International Baccalaureate (IB) programmes are one option. Foust et al (2008) collected data on the perceptions of a group of gifted students enrolled in AP and IB. The results indicated that the students perceived that their social acceptance was not affected negatively by enrolling in such demanding programmes. This qualitative study was rich in its descriptive information and presented the responses of the students in such a way to make the reader understand the perceptions and inner feelings of the students about challenging and demanding gifted education programmes. Another study conducted by Hertberg-Davis (2008) concluded that although AP and IB are the more suitable programmes for high school gifted students, research such as that conducted by Foust et al. (2008) is very limited with regards to research related to these programmes.

Bleske-Rechek, Lubinski & Benbow (2004) conducted a longitudinal study of gifted students, and found that 70% of the students who had taken one or more AP courses in high school had achieved advanced professional degrees by the age of 33, compared to 43% of those who had not taken AP courses. However, the National Association for Gifted Children (NAGC, 2008) recommended AP and IB courses should not be considered the sole components of gifted education programmes. The NAGC association suggested that the limitations of AP coursework meant that schools must offer additional curriculum options for gifted students. The UAE government educational system does not apply AP or IB, however, private schools does.

## *Differentiation*

Differentiation is an option for gifted education strategy. Differentiated instruction means modifying the content or the materials and modifying the teaching methods in the classroom to meet the learners' needs. When modifying the content, the way students access the curriculum and what they can learn is modified according to their abilities to allow them reach their potentials (Tomlinson, 2001). Reis (2009) favoured differentiation and claimed that differentiating curriculum and instruction pedagogy in the regular classroom benefits the gifted students. Hong, Greene & Higgins's (2006) claimed that to be able to cater for a gifted student in a regular classroom, instructions and curriculum should be differentiated. Schlichter and Brown (1985) supported Hong, Greene & Higgins (2006) suggesting that differentiation closely influences the services provided for gifted students.

Yang, Gentry & Choi (2012) discovered that gifted students in grades 3-6 perceived that differentiated classes were significantly more interesting, challenging, and enjoyable than regular classes. Dimitriadis (2012) also reviewed special education programmes for teaching mathematics to gifted students at primary schools which involved differentiation. The conclusion was that differentiation had positive effects on the students' interactions with teachers, level of skills, and motivation. The students in the differentiated groups exhibited more ability in mathematics than those in undifferentiated groups and appreciated the chance to work with peers having a similar high level of mathematical ability. All of the differentiated children ultimately progressed to the highest standard of attainment in mathematics. Furthermore the teachers reported that they were confident the need of the gifted children has been met by differentiation.

### **Enrichment**

Differentiation may also involve options for gifted education programming using out of school enrichment programmes. For example, the Catalyst Programme, is a special science course for gifted high school students with interests in chemistry. The students in this programme were reported to appreciate the chance they had to develop a better understanding of the creative process in science research including mentoring by research scientists (Subotnik et al., 2010). Other studies have also reported that students attending out-of-school enrichment programmes have reported high levels of interest, challenge, choice, and enjoyment (Pereira et al., 2010). Another out-of-school option includes enrolling gifted students in specialized distance learning, such as the programme offered by the Johns Hopkins University's Centre for Talented Youth (Wallace, 2009).

### **Pulling Out**

Pulling out means that gifted students receive services in a specialized school, otherwise known as a "magnet school" in the USA. Thomas (2000) in an evaluation of magnet high schools found that 99% of the enrolled students progressed to earn a University Degree. Thompson (2011) found that students who attended magnet schools were more likely to experience high levels of satisfaction and achievement. Furthermore, magnet school programmes worked harder than regular schools to keep their programmes innovative and challenging and to remain competitive relative to other options available for gifted students.

### **Instructional Design Model**

Another type of gifted education programme was developed by VanTassel-Baska (2003). She developed an instructional framework model entitled “A curriculum – Instructional Design Model for Constructing Curriculum”. Curriculum development is a complex process, which involve content, process, product and environment modification. It goes through several stages from planning, needs assessment, work scope, curriculum development, piloting, field-testing, implementation and evaluation, which include a revision.

### **Acceleration**

Acceleration includes grade skipping, early graduation from high school, acceleration in one or more subject, early entrance to college or advanced placement programmes (Brody & Benbow, 1987). Acceleration had not been regulated in the UAE and the MoE does not support acceleration as an option for gifted students.

### **Enrichment & School wide Enrichment Model**

According to the MoE (General Rules of Provision of Special Education, 2015) the different forms of programmes and services provided for gifted learners in the UAE are based on the School-wide Enrichment Model (SEM) as follows:

Enrichment programmes inside the general education classes or resource rooms (either in a subject in the curriculum, or subject not included in the curriculum). Additional services include assigning students individual projects and studies, specialized educational tours, attending lectures, debates, educational seminars, participating in educational competitions, providing students with programmes to solve problems, programmes of leadership, communication and computer skills (P. 21).

In the UAE great emphasis is been placed on enrichment programmes and summer programmes both offered by Ministry of Education and Hamdan Award. The School wide Enrichment Model (SEM) was introduced by Renzulli & Reis (1985; Renzulli, 1977) with enriched learning methods for academically gifted students SEM “focuses on the development of gifted behaviours in a specific area of learning and human expression” and contains “talent portfolios, curriculum modification techniques and enrichment learning and teaching” (Gibson & Efinger, 2001, p. 49).

## **2.10 Evaluation of Gifted Programmes**

Evaluation is defined as “the process of gathering data for the purpose of decision-making” (Callahan, 1986, p. 39). Evaluation and assessment has been called upon in the field of gifted education since Merland report (Merland, 1972). Hunsaker (2000) argued that evaluation is beneficial for decision makers, and should inform them rather than influence them. Two elements are essential for programme evaluations: formative and summative (Patton, 2008). Summative evaluation involves a review process and is conducted after implementation of the programme. Formative evaluation involves a continuous process and is conducted usually during implementation of the programme (Patton, 2008; Callahan et al., 1995). Berger (1998) claims that programme evaluation should be a useful tool for determining if programmes were meeting goals and provide a method for collecting, organizing, analysing and reporting data for multiple audiences. Berger (1998) suggests that programme evaluation should measure the outcome of a programme based on its student attainment goals, level of implementation and external factors such as community support. VanTassel-Baska & Johnsen (2007) stated that people tend to see gifted education as a privilege to gifted students not a right, she emphasised “Quality

education for gifted students is a right, not a privilege” (p.209). Evaluating gifted programmes helps in ensuring the quality of programmes provided. Four types of programme evaluation model are defined in the literature: (a) Management Models; (b) Judicial Models; (c) Anthropological Models; and (d) Consumer Models. A detailed discussion of the four types is presented the next chapter in sections 3.3.1 to 3.3.4. In addition of section 3.3.5 justifies the choice of the evaluation Model for this study.

For the current study NAGC’s pre-K- grade 12 gifted programming standards were applied as a framework of the research. The NAGC pre-K to grade 12 gifted education-programming standards are a comprehensive framework developed by input from stakeholders and scholars in the field. NAGC standards are used to evaluate gifted programmes and improve education practise. In addition the standards are applied to ensure the quality of the gifted education programmes and provide a rubric for the evaluation of gifted programmes.

NAGC standards have been applied before to evaluate gifted programmes (Landrun, Ballahan & Shaklee, 2000) because the NAGC standards “are the benchmarks, criteria, guidelines and recommendations of gifted programming, as well as tools for the improvement” (NAGC, 2000). The NAGC pre-K to grade 12 gifted education-programming standards is organized around six criterion areas: (1) Learning and development; (2) Assessment; (3) Curriculum planning and instruction; (4) Learning environment; (5) programming and (6) Professional development. Each criterion consists of several guiding principles. Accordingly, the current research structured around those criteria and used to guide the current study’s model of

evaluating UAE gifted programmes. More detailed discussion about NAGC 2010 gifted programmes sanders was presented in section 2.4.

## **2.11 Benefits of Gifted Education**

Evaluation studies have revealed that gifted education programmes positively influences students' futures. Westberg (1999) suggested that the long term benefits of gifted education programmes to gifted students included maintaining their academic and other interests over time and staying involved in creative productive work long after they finished school. Ries (2009) argued that the benefit of offering programmes for gifted students is that those programmes will complement the students' abilities and help them to progress in their academic life. Her article reviews several studies related to gifted education with a clear summary and comparison of the results. Hertzog (2003) agreed with Ries (2009) that gifted students would benefit from gifted programmes in challenging their abilities and catering for their specific needs. Hertzog's study on how a group of gifted students felt about being in a gifted programme showed that those students found the those programmes had a positive impact on their life. Ries (2009) claimed that such programmes can also help students who are not identified as gifted in the regular classroom additionally to the gifted ones. On the contrary, Chessman (2007) did not agree with Ries suggesting that programmes offered for all students would not be effective for gifted students.

Several longitudinal studies have been conducted concluding that gifted programmes in primary and secondary schools have a positive effect on students' post-secondary education. Lubinski et al. (2001) found that that over 50% of 320 students identified as gifted during adolescence who received gifted education at the

secondary level pursued doctoral degrees at Universities. In a follow-up of the same study, Kell, Lubinski, & Benbow (2013) found that 203 (63%) of the participants reported achieving advanced postgraduate degrees at age 38. Of these, 142 (44%) achieved doctoral degrees and 8 of these 142 had more than one doctoral degree.

Park, Lubinski, & Benbow (2007) conducted a longitudinal survey using a sample of 2,409 intellectually gifted adolescents, identified as being in the top 1% of gifted students at age 13. Their creative accomplishments, including literary achievement and scientific-technical innovation were monitored for over 25 years. The results revealed that giftedness identified by age 13 predicted creative accomplishments in middle age. For example the participants had earned 817 patents and published 93 books, one was awarded a medal in mathematics, and another was awarded a medal for the most outstanding economist under 40.

Campbell & Walberg (2010) also conducted a longitudinal survey of 345 gifted students participating in gifted education programmes that included talent development through competition. The survey revealed the programmes had a long-term impact on the students' academic achievements. For example, 52% of the participants earned doctoral degrees (compared to 2% in the general U.S. population).

## **2.12 Teachers' Professional Development**

Research on professional development of teachers is valuable in terms of its findings. Most researchers have agreed that the training and professional development of teachers results in better achievement for gifted students on the variety of programmes offered to them (Graffam, 2006; Gallagher, 2000; Holt, 2008). Graffam

suggested that that teachers' backgrounds helped to provide better preparation for gifted education. Holt's study was rich with qualitative data based on information gathered in focus group discussion and interviews. The analysis of data collected in semi-structured interviews and focus groups, however, revealed that the participants perceived that encouragement towards their choice of being a teacher of gifted students as their future career was missing from training programmes. Other studies have indicated that there appears to be a general lack of professional development to support gifted education by teachers who are already trained in regular education. (Hertberg-Davis & Callahan, 2013). VanTassel-Baska and Johnsen (2007, p.182) claim in their research that "To ensure equity and systematic talent search and programming, it is essential that teachers are educated in the relevant theory, research, pedagogy, and management techniques important to developing and sustaining classroom-based opportunities to learn for these students". Vantassel-Baska (2013) asserted, "the grand plan is to train all teachers to become more skilled in working with gifted" (p.6). Therefore, training is important to better serve gifted students. In the UAE the MoE provides planned training on enrichment and evaluation of gifted programs for teachers. In addition it provide awareness lectures for schools and teachers on giftedness, identification and definition. In addition to training for schools on how a teacher can deal with gifted students in their classes.

### **Co-teaching**

Co-teaching refers to two teachers, a regular education teacher and a special education teacher, sharing responsibility for one or all of the students assigned to a classroom. Co-teaching usually involves the equal sharing of responsibility between both teachers for planning, instruction, and assessment of the students in one

classroom. The primary objective of co-teaching is to maximize student growth and achievement in a community of diverse learners (Friend, 2010). Bauwens, Hourcade, and Bauwens (1989) recommended co-teaching as an educational approach where regular education teachers and special education teachers work in a coordinated fashion to jointly teach heterogeneous groups of students in educationally integrated settings. Sileo and Van Garderen (2000) endorsed co-teaching as an instructional delivery model applicable to teaching students in less restrictive integrated classroom settings where regular education and special education teachers share responsibility for planning, delivering, and evaluating instructional practices for all students. Cook and Bauwens (1998) suggested that the advantage of co-teaching is that it provides all students with a wider range of instructional options, because co-teaching reduces the student-teacher ratio through the physical presence of two teachers. Magiera (2005) and Murawski (2009) suggested that the advantage of co-teaching is that co-teachers provide professional support for one another. Co-teaching strategies have, however, mainly been developed for in classes which include students with disabilities. There is limited research on the implementation of co-teaching for gifted students. Hughes & Murawski (2001) describes how co-teaching can be applied using gifted education teachers to provide services to gifted students alongside regular teachers in educationally integrated settings. Hughes and Murawski (2001) provided a new definition of co-teaching in the context of gifted education. Five models of co-teaching originally developed for meeting the needs of disabled students were described, and some examples of the applications of co-teaching with gifted students in regular education classrooms were provided.

### **Mentoring**

A mentor is an experienced teacher who works with a less experienced

mentee teacher. Successful mentoring supports a school culture of collaboration, and allows both mentor and mentee to achieve professional growth (Griffin, Winn, Otis-Wilborn, and Kilgore, 2003). Mentoring is supported by Vygotsky's (1998) socio-cultural theory, which highlights the importance of developing educational relationships that promote a "sense of trust in others" (Miller, 2007, p. 197). The mentoring of inexperienced teachers by experienced teachers helps to reform educational practices, by improving the behaviour of teachers in the classroom and by helping teachers to better understand the effects of their behaviour on students (Hudson & Hudson, 2010). Griffin, Winn, Otis-Wilborn, and Kilgore (2003) found that special education teachers acquired many skills by communicating with their mentors about the special needs of teachers working in the special education environment. The researchers suggested that the experience of the mentors in special education should equal the needs of the inexperienced special education teachers who are their mentees. Griffin, Winn, Otis-Wilborn, and Kilgore (2003) found that experienced mentors in special education had a significantly positive effect upon inexperienced special education teachers' and supported the decisions of the mentees to remain in special education. Mentoring also empowered inexperienced special education teachers to exchange knowledge with other teachers and parents, and to create strategies that significantly enhanced student performance.

### **2.13 The Role of School Leaders**

School leaders have an important role to play in the professional development of all teachers, including the teachers of gifted students. Reform in special education requires strong school leadership to support the professional growth of special education teachers, because school leaders need to acknowledge that every special

education teacher brings his or her own personal perspectives and value system to the school environment (Kilgore, Griffin, Sindelar, & Webb, 2002). School leaders should ideally allow special education teachers to conduct their job autonomously, so that they can apply their own perspectives and values to decision-making processes. By so doing, school leaders may help to enhance the organizational commitment, job satisfaction, self-identity, productivity, cohesion, and retention of special education teachers. School leaders who actively encourage special education teachers' participation in decision-making processes may enhance the quality of teaching practices in the special education environment. School leaders, however, may not always understand or support the personal perspectives and value systems of special education teachers.

#### **2.14 Parental School Involvement**

Many studies have demonstrated a very strong positive correlation between the academic performance of students and the extent to which their parents become involved in activities that help to promote their children's learning (Barnard, 2004; Hill et al., 2004; Gordon & Louis, 2009; Cheung & Pomerantz, 2012). Parents not only need to provide resources, such as school fees and educational materials, but they also need to assist their children with home learning and other out-of-school learning activities. Parents need to motivate their children by highlighting the value of learning, communicating with teachers regarding the welfare and academic progress of their children. Parents should ideally volunteer to help at school, as well as participate in school functions and parent-teacher meetings (Hill & Taylor, 2004).

The overlapping spheres of influence model developed by Epstein (2001) is

relevant to the education of gifted students, because it places the student at the centre of a triangle, with connections to the school, the parents, and the community. If there are very close links between the parents and the school, then both gifted and non-gifted students may perform better at both academic and social levels. The six types of parental involvement prescribed by Epstein's theory are: (a) good parenting, (b) communicating, (c) volunteering, (d) learning at home, (e) decision making, and (f) collaborating with the community. Epstein's prescriptive model aims to help parents play a pivotal role in the schooling of their children, but only operates effectively if the role of parents is defined by school policy (Bower & Griffin, 2011). School counsellors may also have an important role to play, to support the efforts of parents to become more involved with school activities and their children's education (Bryan, et al., 2011).

With respect to special education, Lopez, Krider, and Caspe (2005) suggested several activities that special education teachers may use in practice to increase the levels of parental school involvement, as follows: (a) to respond to the interests and needs of the children's families; (b) to engage in dialogue with the children's families; (c) to build on existing funds of knowledge and skills within the children's families; (d) to encourage parents to advocate school policies and practices that benefit their children's education; and (e) to encourage parents to participate in out-of-school special educational programmes and (f) to foster school-family-community partnerships.

### **2.15 School-Family-Community Partnerships**

Schools are located in communities, but often schools do not interact very closely with their local communities. Families live in communities, but sometimes

with little connection to the schools that their children attend. The aim of school-family-community partnerships is to construct viable programmes that benefit students, parents, schools, and the local community (Dodd & Konzal, 2002). School-community partnerships are connections through which schools reach out to their local communities, through links with various facilities. These facilities may include youth groups, businesses, religious and civic groups, libraries, sports clubs, special education centres, and any other facilities that enrich the learning and recreation of children (Sanders, 2003).

School-family-community partnerships may provide further opportunities for special education students to achieve their maximum potential (Narcisse, 2007). Simon and Epstein (2001) defined several activities to promote school-community partnerships, including (a) more parental school involvement; (b) more communication between schools and the local community; (c) endorsement of out-of-school learning, and (d) shared responsibilities for children's education between the school and the local community. Delgado-Gaitan (2001) suggested that a successful school-community partnership involves better communication and collaboration to identify major issues of concern, and to organize effective partnership strategies.

Although informal school-family-community partnerships are relatively simple to develop, establishing effective long-term partnerships is complex and difficult, involving strategies that require fundamental school reform (Edwards, 2003). Schools alone cannot prepare children, particularly gifted children for all the new challenges that they will face in the 21<sup>st</sup> century. Educating all children to live in our very rapidly changing and increasingly complex world "requires contributions

and commitments from everyone in the community” (Dodd & Konzal, 2002, p. 288). School, families, and community organizations need to overcome their traditional barriers and formal strategies must be implemented to promote collaboration. Such strategies may include building school-business partnerships, opening schools beyond traditional hours to use as community learning centres, and developing more comprehensive services to involve parents more in their children’s education and development (Sanders, 2003).

## **2.16 Policies and Regulations**

Policies and regulations on gifted education programmes are fewer than policies and regulations for regular education (Irby & Lara-Alicio, 2002). Different policies with regards to gifted education exist worldwide, however, limited research has been conducted on the policies and regulations for gifted education (Zirket, 2004).

Bracken (2006) claimed that the main components of gifted education programmes are identification and policies. Bell (2005, p.9) claimed, “A successful study will provide the reader with a three-dimensional picture and will illustrate relationships, micro political issues and patterns of influences in a particular context”.

Policy is defined as “An explicit or implicit single decision or group of decisions which may set our directives for guiding future decisions, initiate or retard action, or guide implementation of previous decisions” (Haddad & Demsky, 1995, p. 18). Gifted education policies regulate different aspects related to gifted education such as: identification, definitions, teams, provision and evaluation. Gifted education policies started in the USA in the 1970s to justify providing extra funding for gifted

programmes. However, those policies were not mandatory and did not have an effect of education change. In the next thirty years, different policies were developed to enhance the field of gifted education. Nevertheless, difficulties remained in gifted education policies, with respect to aspects such as the curriculum (Irby & Lara-Alicio, 2002). Renzulli and Reis (1991 as cited in Baker, 1995) pointed out that political issues acted as a barrier to gifted education in the 1990s. Subsequently, many attempts have been made to revise gifted education policies to correct the conflicts. Different policies mandating gifted education programmes exist in many countries, however, several pressures tend to divert the allocation of resources elsewhere. It appears that many countries still need to implement policies that cater for the culture to which they apply. In the UAE no Federal Law exists to govern the gifted education according to the latest study by Elhoweirs (2014).

## **2.17 Conclusion**

Gifted education is clearly beneficial for the advancement of gifted students, however, there are still many issues to be resolved. One of the issues that could be vital in planning and initiating programmes for gifted students could be reaching a clear identification for those students who are gifted. The identification process must be comprehensive and not limited to IQ. A more holistic view of who is identified as a gifted student is required.

Gifted education programmes need to be evaluated in order to improve their provision. Furthermore, policies to regulate the practice need to be well developed. In order to allow all gifted students to reach their potentials and fulfil their special needs, more gifted programmes need to be implemented. More gifted education programmes

are needed mainly because the regular education system does not appear to meet the needs of all gifted students. These controversial issues provided a direction and rationale for the current research on the assessment of progression of gifted education in the UAE.

# **CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY**

## **3.1 Overview**

This chapter describes and justifies the use of a mixed methods approach with a sequential explanatory design involving a multiple case study to address the research question: what programs are offered for gifted learners in primary government schools in Dubai? And what is needed in order to improve the provisions of gifted education? And its following sub-questions:

1. What policies are in place to support the provision of service offered for gifted learners in order to contribute to the country's development?
2. How is giftedness defined in Dubai? And how are the gifted learners identified in order to be served
3. What programmes are offered for them? And how are they implemented?
4. What is needed in order to improve the provision of gifted education in order to contribute to the development of the UAE?

In the following sections, the philosophical foundation and theoretical framework underpinning this study are discussed. A description of the sampling sites and data collection procedures is provided. The quantitative and qualitative methods used to collect and analyse the data are also outlined. The final sections discuss the limitations and validity of the findings, followed by the ethical considerations.

## **3.2 Researcher Philosophical Foundation**

All researchers need to look through a philosophical lens in order to obtain a personal perspective to guide their research. The philosophical foundation of

researchers is associated with beliefs in a paradigm, which is "a basic set of beliefs that guide action" (Guba, 1990, p. 17). With respect to scientific research, a paradigm is "made up of the general theoretical assumptions and laws, and techniques for their application that the members of a particular scientific community adopt" (Chalmers, 1982, p. 90). To support a paradigm, the researcher must answer questions across five concepts (Creswell & Plano Clark, 2007). These questions include holding positions concerning (a) what is the nature of reality? (Ontology); (b) How is knowledge acquired? (Epistemology); (c) What is the value of research? (Axiology); (d) What is the language of research (rhetorical); and finally (e) What is the process of research? (Methodology). The first four concepts direct the researcher towards the choice of an appropriate methodology (quantitative, qualitative, or mixed methods).

Research in social science is generally underpinned by the three paradigms of positivism, interpretivism, and pragmatism (Babbie, 2010; Creswell, 2014) as defined in Table 3.1. Researchers generally adopt only one of these paradigms to guide their actions in a given study. Positivists propose that knowledge is separate from human feelings, and consists only of an external objective reality. Positivism involves the collection and statistical analysis of quantitative data, using deductive reasoning, in order to test hypotheses. The interpretivist or constructivist paradigm proposes that facts and feelings are not separate, implying that knowledge does not exist outside the human mind, but is socially constructed by each individual. Interpretivism involves the collection and analysis of qualitative data, such as observations in natural settings, and the responses of participants to interview questions. Pragmatism, in contrast, assumes that quantitative and qualitative data are complementary, are not in opposition. Furthermore, the pragmatist philosophy is beneficial for case studies,

involving the exploration of situations in a real-life context (Stiles, 2015). Table 3.1 compares between the different paradigms in social science.

**Table 3.1 Paradigms in Social Science**

	Positivism	Constructivism or Interpretivism	Pragmatism
Methodology	Quantitative	Qualitative	Mixed Methods
Reality	Single reality (Outside the human mind)	Socially constructed reality (Inside the human mind)	Single and socially constructed reality
Viewpoint	Impartial	Not impartial	Practical
Bias	Unbiased	Biased	Multiple stances
Interpretation of data	Deductive, or "top down" starting with theory, then using data to test theory	Inductive or "bottom up", starting with data, then using data to generate theory.	Pluralistic, involving both deductive and inductive approaches
Presentation of data	Formal	Informal and literary	Formal and informal
Outcomes	Relationships between variables	Understanding and theory	Problem centred results, oriented toward the real world

Because the researcher's is a gifted education advocate, having worked previously in UAE at the MoE, and is currently working in an organization dealing with gifted education, the researcher has a practical perspective, and supports pragmatism. The researcher believes that a philosophical foundation that supports a

combination of quantitative and qualitative approaches provides better knowledge and understanding than either approach when applied alone.

Pragmatism is an inquiry paradigm which has gained considerable support from researchers in the last decade to provide (a) a rationale for implementing a formal mixed methods research design; and (b) a philosophy to underpin the researcher's aim to provide socially useful knowledge with practical applications (Bryman, 2007; Feilzer, 2010; Morgan, 2007). Feinberg (2009) summarizes the benefits of pragmatism in the context of educational research as follows. Pragmatism implies that it is necessary to take the multiple perspectives of different groups of real people into account, and to access both quantitative and qualitative data that will help to serve the needs of real people in the future. Pragmatism was therefore the optimal philosophical foundation for this study, because information had to be accessed from multiple sources and perspectives, involving both deductive and inductive methods of interpretation, to help improve the development of gifted education on the UAE.

Pragmatism recognizes the social constructivist viewpoint that different individuals or groups of participants in a mixed methods study will all have something different to contribute to knowledge and understanding, including not only objective facts but also personal subjective values and perceptions (Feilzer, 2010). The positivist paradigm tends to reject subjective or socially constructed values and perceptions as irrelevant, whereas pragmatism does not (Creswell, 2014). For example, in the context of the current study, pragmatism implied that it was necessary for the researcher to record and interpret information from experts with extensive experience in gifted education, as well as from other participants, with less experience. The experts working in administrative settings were able to provide the

researcher with access to their privileged knowledge, understanding, values, and perceptions on gifted education, based on their broad perspectives. In contrast, the participants with less experience, working in local school settings, were able to provide different insights into gifted education based on their narrower perspectives.

Because the researcher supports pragmatism, the current study used a mixed methods approach. As a pragmatist, the researcher supports the argument of Bryman (2007) that the polarization of positivism and interpretivism must be broken down, and that quantitative and qualitative data should be integrated in order to provide a more comprehensive understanding to address the stated research questions.

### **3.3 Theoretical Framework**

In a review of the theoretical framework that underlies gifted education, Page (2011, p. 14) recommended that it “is important for teachers to base programmes of learning on a sound understanding of the theories and principles underpinning gifted education” and also that “All schools should regularly evaluate and review their approaches to gifted education in order to ensure the principles of gifted education are being addressed, and to keep up to date with current best-practice models and other relevant theories and research” (Page, 2011, p.14). More recently, VanTassel-Baska and Johnsen (2007, p.182) claimed that “To ensure equity and systematic talent search and programming, it is essential that teachers are educated in the relevant theory, research, pedagogy, and management techniques important to developing and sustaining classroom-based opportunities to learn for these students”. Accordingly, the literature review in Chapter 2 discussed the major theories underpinning gifted education, including Vygotsky’s (1962) Sociocultural Theory, Bandura’s (1989) Social Cognitive Theory, Renzulli’s (1986) Three Rings Conception of Giftedness,

Gardner's (1983) Model of Multiple Intelligences, and Gagné's (1992) Differentiated Model of Giftedness. The use of a mixed methods approach in the current study was consistent with this theoretical framework because it emphasizes the evaluation of gifted education programmes from different perspectives using multiple sources of data.

It is appropriate to review programme evaluation theory as a component of the theoretical framework to conduct a needs assessment of gifted education programmes in Dubai. A brief review of the history of programme evaluation theory is presented, followed by a description of different models used to underpin programme evaluation.

In the 1970s, the social justice theory developed by Rawls (1971) began to underpin the development and evaluation of educational and social programmes in the USA. Rawls proposed two major principles for evaluation. The first principle was that every citizen should have basic civil liberties and rights. The second principle was that the benefits of basic civil liberties and rights should ideally be distributed equally among all citizens. In the 1970s, evaluators began to apply the social justice theory to the evaluation of educational programmes. They were not only concerned with gains in student performance at school, measured using quantitative measures (e.g., scores for IQ tests and standardized achievement tests). They were also concerned with whether the test scores were equitably distributed among different groups of students. Consequently the extent to which some groups of students benefited more from education than others, focusing mainly on racial and socio-economic inequalities, became a controversial issue in the process of evaluation (House, 1980).

Typically, the focus of the educational evaluation process in the 1970's and 1980's was mainly on the statistical analysis of test scores, to examine the extent to which student outcomes were associated with the characteristics of students, as well as the content and delivery of the programmes in which they participated (Cronbach, 1982). The statistical analysis of test scores required no qualitative input from those stakeholders who were most affected by the evaluation process (i.e., students and teachers). The evaluations were not inclusive but reflected mainly the dominating interests of educational administrators and policy makers who wanted to determine how to improve student performance (Greene et al., 1998). It was, however, very difficult, using the analysis of test scores alone, to identify any causal relationships. Cronbach (1982) argued that the evaluation of causes and effects was impossible using only quantitative measures of student performance. The main problem for evaluators was that a multitude of immeasurable factors and possibilities intervened and confounded the association between the content and delivery of a particular educational programme and the subsequent student outcomes, and so the results of the statistical analysis were often misleading and inconsistent.

Subsequently, programme evaluators realized that they also had to examine the distribution of the benefits of education from multiple perspectives, and that a broader understanding of the needs, policies, and practices of education had to be acquired. The multi-perspectival evaluation process required the analysis of both quantitative and qualitative forms of information collected from different groups of stakeholders (Joint Committee Standards for Educational Evaluation, 1994). The argument that a broader range of assessment tools is required to evaluate the effectiveness of educational programmes and that the quantitative analysis of test

scores alone is inadequate was well supported in the literature (e.g., Biggs, 2000; Pellegrino et al., 2001; Shepard, 2000). More qualitative studies were then introduced into programme evaluation, creating a richer variety of contextual information, which helped to provide a better understanding of the complex social reality of educational settings, including the relationships between the activities of educators and the student outcomes, and how potential causes and effects interacted in different circumstances (Denzin & Lincoln, 2008; Fraenkel & Wallen, 2010).

The historical background outlined above led to the system of educational programme evaluation that is practiced today. Recent debates in the educational literature have been concerned with (a) the diversity of resources and processes for conducting evaluations, including how quantitative and qualitative methods can be integrated; (b) the selection of appropriate programme evaluation model; (c) the critical quality standards that underpin evaluation, including their utility, feasibility, propriety, accuracy, accountability, and validity; and (d) the ethical principles underlying evaluation (Mertens, 2015). The justification for the use of social science techniques to evaluate educational programmes within a political arena dominated by the value judgments of administrators is also a subject of debate (Ball, 2011).

There are many disagreements in the literature about the selection of programme evaluation models. The literature on programme evaluation highlights the need for theory, and several models encompassing a variety of concepts, are related to how programme evaluation should or be practiced. Numerous conceptual frameworks explain different types of programme evaluation, based on various assumptions about how programme evaluation is supposed to function. Four types of programme

evaluation model are considered in this review: (a) Management Models; (b) Judicial Models; (c) Anthropological Models; and (d) Consumer Models. Each model prescribes a different method of conducting a programme evaluation. Researchers may choose an appropriate model that best fits the evaluation that they are conducting (Donaldson, 2007; Stufflebeam, et al., 2007; Wang, 2009; Mertens, 2015).

### **Management Models**

The researcher using a management model provides practical information for utilization by an organization. A management model is applied to help the primary intended users of the research findings to make decisions that may ultimately promote change for the better good of their organization. Two currently popular management models considered in this review are the UFE (Utilization Focussed Evaluation) model and the CIPP (Context, Input, Processing, and Product) model.

Patton (2008) supported the UFE, arguing that a programme evaluation should not be conducted unless it has potential for utilization. Patton recommended researchers to focus mainly on the applications and implications of a programme evaluation, by publishing the findings and facilitating their utilization by the primary intended users. According to Patton (2008), the main outcome of UFE is a utilization plan, which outlines what the primary users must do in the future to make the best use of the research findings. The researcher using a UFE must develop a working relationship with the primary intended users to help them determine what kind of evaluation they need. Consequently, a researcher using the UFE approach must work closely with the primary intended to ensure that their needs are satisfied.

The CIPP is a popular management model in educational contexts (Stufflebeam & Shinkfield, 2007). It adopts a systems analysis approach to programme evaluation. The CIPP model assumes that a programme evaluation should focus on three stages of information handling, specifically the information flowing into the system from the outside (Input); the action of assimilating the input into a more useful form (Processing) and the information flowing out of the system (Output). When Input and Processing are retained, Context is added, and the term Product is used instead of Output, then the CIPP model is produced.

A simple CIPP model is described as an example. Teachers in a school setting (Context) take a register of the students who attend their classes (Input). The data from the teachers are loaded into a database and analysed (Processing). Finally the student attendance records are sent back to the teachers, to provide them with information about which students have been absent (Product).

Context evaluation includes (a) a description of the background, setting, and circumstances of the program; and (b) the carrying out of a needs assessment, to identify the objectives of the program, and to determine whether or not the proposed objectives will be sufficiently responsive to meet its needs.

Input evaluation include: (a) a description of the programme inputs and resources; (b) a comparison of how the programme might perform compared to other programs; (c) a prospective cost/benefit analysis (e.g., whether the benefits may outweigh the costs of the program, before the program is implemented); (d) an

assessment of the proposed design of the programme; and (e) an exploration of alternative strategies and procedures to implement the programme.

Process evaluation involves the researcher providing feedback to the primary users about what happens in a particular programme. This feedback helps the primary users to make decisions about how to improve the program. Process evaluation includes (a) examining the implementation of the programme; (b) monitoring the performance of the programme; and (c) identifying the defects in the programme.

Product evaluation enables the primary users to implement decisions, based on answers to "What is the merit and worth of the programme?" and "Should the program be continued?" Product evaluation includes (a) an assessment of the outcomes and merits of the programme; (b) a cost/benefit analysis, to establish the value of the programme; and (c) a cost/effectiveness analysis, to compare the value of the programme, relative to other similar programmes.

### **Judicial Models**

Judicial models require multiple adversary-oriented evaluators. If there are two evaluators, then one presents the evidence for terminating a programme, whereas the other presents the evidence for continuing the programme. If there are more than two evaluators, then they collectively discuss the merits of a programme. Finally a judge reviews the evidence and provides a decision. Judicial models are rarely used in educational contexts because they lead to unnecessary arguing, competition, and an indictment mentality. They are also expensive to implement in practice because of the requirement for multiple evaluators.

### **Anthropological Models**

Anthropological evaluation models require multiple stakeholders to conduct a programme evaluation. A stakeholder analysis is then conducted to facilitate organizational reforms by incorporating the perceived needs of all those who have a stake in the reforms under consideration. A stakeholder matrix is constructed, consisting of a cross-tabulation, with the stakeholders in the columns, and the findings in the rows (Sharma & Starik, 2004). Data are presented in each cell of the matrix to permit the perceived needs of each stakeholder to be compared and contrasted.

### **Consumer Models**

A consumer model is used to determine whether or not a consumer would want to use a specific product; however an educational programme is not as easy to evaluate as a commercial product, such as a car. For example, an evaluator can define the specifications and performance of a specific make of car and compare these specifications against another make of car. An educational programme however, is a much more complex product than a car because it involves a research methodology to determine how well it operates.

### **Choice of Model**

A Utilization Focused Evaluation (UFE) model was chosen for the current study. The UFE model complemented the framework designed by the National Association for Gifted Children (NAGC) Pre-K-Grade 12 Gifted Programming Standards. The NAGC standards are grounded in UFE theory because they rely on evidence-based practices in order to provide recommendations for the implementation of enhanced education programmes for gifted students (NAGC, 2010).

The main reason for choosing a UFE model was that the main purpose of the evaluation was to conduct a needs assessment leading to the preparation of a utilization plan. This purpose of the utilization plan was to recommend what schools in Dubai should do in the future to enhance the provision of gifted education. This programme evaluation should therefore be judged by its utility and its contribution to good educational practice rather than by the quantity and quality of the information that it provided (Patton, 2008).

### 3.4 Research Approach

The research approach used in this study was mixed methods. The literature contains many definitions of mixed methods, as exemplified in Table 3.2.

**Table 3.2 Definitions of Mixed Methods Research**

Definition	Reference
"A study combining quantitative and qualitative methods"	Fraenkel & Wallen (2010, p. G-5)
"When thinking mixed methods, most social scientists think in terms of some combination of qualitative and quantitative approaches to research"	Bazely (2002, p. 1)
"General term for approach when both quantitative and qualitative data collection techniques and analysis procedures are both used in a research design"	Saunders, Lewis, & Thornhill (2010, p. 595)
"Mixed method research studies use qualitative and quantitative data collection and analysis techniques in either parallel or series."	Tashakkori & Teddlie (2003, p. 11)
"Designs which include at least one quantitative method (designed to collect numbers) and one qualitative method (designed to collect words) where neither type is linked to a	Greene, Caracelli, & Graham (1989,

particular inquiry paradigm”.

p. 255)

"As a method, it focuses on collecting, analysing, and mixing both quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone"

Creswell & Plano  
Clark (2007, p. 5)

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All of the definitions listed in Table 3.2 recognize that mixed methods is identifiable to researchers as a distinct approach which has evolved as a reaction to the polarization of quantitative and quantitative research methodologies (Collins & O'Cathain, 2009). Quantitative methodologies favour the collection and analysis of "data that differ in amount or degree along a continuum from less to more" (Fraenkel & Wallen, 2010, p. G-7). Quantitative data includes counts and measurements (e.g., empirical survey data collected using Likert scales, numerical experimental observations, and secondary data stored in databases and records). Qualitative methodologies, in contrast, favour the collection and analysis of data that describes or characterizes but does not measure any attributes, characteristics, or properties. Qualitative data includes words, sounds, and images, including responses to face-to-face interviews or written narratives, documents such as diaries or minutes of meetings, and observations made in natural settings, including photographs, audio, and video recordings (Merriam, 2009).

Quantitative research aims to explain reality in terms of numerical data including, statistics, parameters that are assumed to exist outside human feelings. A quantitative researcher conducting a survey or experiment must remain impartial, and not allow personal views to influence the conclusions. Although information relating to a defined population may be summarized, predicted and generalized in terms of

quantitative data, it is much more difficult to explain the attitudes, perceptions, and behaviours of each individual person within a population. Qualitative research addresses this difficulty by exploring the attitudes, perceptions, and behaviours of selected individuals. Qualitative research attempts to achieve a comprehensive understanding of a phenomenon, through exploring the richness, depth, and complexity of the information derived, for example, from focus groups, face-to-face interviews, and observations in natural settings. Qualitative research also implies that the researcher must reflect personally upon what role s/he plays in constructing knowledge and how and why s/he came to certain conclusions (Finlay, 2002). In practice, however quantitative and qualitative research are not directly polarized. Neither approach is superior to the other. Researchers are implored to integrate whatever approaches they consider are best to address their research questions, (Bryman, 2007).

Some authors (e.g., Bazely, 2002; Fraenkel & Wallen, 2010, Saunders, Lewis & Thornhill, 2010) define mixed methods research simplistically in terms of a combination of qualitative and quantitative methods or approaches. For other authors, this type of definition is not specific enough (Creswell & Plano Clark, 2007; Greene, Carecelli & Graham, 1989; Tashakkori & Teddlie, 2003). Tashakkori & Teddlie (2003) divided mixed methods into mixed method and mixed model research. A mixed method study involves the collection and analysis of both quantitative and qualitative data in parallel, or in series, but not in combination. The quantitative and qualitative data in a mixed method study are analysed separately, used to answer different research questions, and make different inferences. Mixed model research, on the other hand, combines collecting, analysing, comparing, and contrasting a mixture

of quantitative and qualitative data across most or all parts of one study, or series of studies, including the answering of common research questions

Mixed methods research also be defined in terms of different methodologies (Creswell & Plano Clark, 2007). The mixed methods approach used in this study was therefore based on the researcher's philosophical foundation, underpinned by a comprehensive review of research on gifted education conducted by Parker et al. (2010). This review revealed that, in the past, the methodology used to investigate gifted education has been dominated by quantitative approaches, however, in the last decade a shift towards qualitative approaches was identified, and more recently the mixed methods approach has become more important.

The central premise of mixed methods is that "the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone" (Creswell & Plano Clark, 2007, p. 5). Qualitative and quantitative approaches have their advantages and disadvantages (Atieno, 2009; Creswell, 2014; Duffy & Chenail, 2008; Yoshikawa et al., 2008) but mixed methods may help to integrate the advantages of both (McMillan & Schmacher, 2010). For example a quantitative survey may generate summary information that can be generalized to a population, whereas a qualitative inquiry may generate more detailed information about the individuals and small groups of individuals within a population (Glesne, 2006).

A major consideration in choosing a mixed methods approach is whether "the research question is appropriate for mixed methods, or would a single method suffice"

(Lingard, Albert & Levinson, 2008, p. 337). Similarly, Onwuegbuzie & Teddlie (2003, p. 379) asserted that “researchers undertaking mixed methods techniques should seek to defend explicitly the approaches they are employing”. The researcher therefore presents the following justification for using mixed methods.

The research questions that guided this study focussed on increasing knowledge and understanding of gifted education in the UAE, regarding: (a) the policies in place to support the provision of services offered for gifted students; (b) how giftedness is defined; (c) how the gifted students are identified in order to be served; (d) what programmes are offered for gifted students and how they are implemented; and (e) how the provision of gifted education can be improved order to contribute to the development of the UAE. The mixed method approach was appropriate because the research questions were very demanding, and required a broad methodology, involving the use of a wide range of tools. Mixed methods was justified to expand the scope and breadth of this study by using different tools to address the research questions based on data collected from multiple viewpoints. The use of mixed methods in this study followed Fraenkel & Wallen (2010, p. 430) who suggested “We believe that educational research increasingly is, and should be, a mixture of quantitative and qualitative approaches” and that “as far as we are concerned, research in education should ask a variety of questions, move in a variety of directions, encompass a variety of methodologies, and use a variety of tools”. Moreover, the mixed methods approach should make this study more credible because it represents the phenomenon more completely (Yoshikawa et al., 2008).

### **3.5 Research Design**

Creswell and Plano Clark (2007) recommended that mixed methods researchers should formulate explicit strategies, justified in terms of whether they need to use (a) a convergent design, to obtain different but complementary data on the same topic; (b) an embedded design, in which one type of data plays a supplementary role within a research design that is based on another type of data; (c) a sequential explanatory design, in which a qualitative method is used as a follow up to provide information to explain or build upon the data collected using an initial quantitative method; or (d) a sequential exploratory design, in which quantitative methods are used in sequence with qualitative methods, and the findings of both are ultimately combined and triangulated (i.e. compared and contrasted to determine if they are consistent).

#### **3.5.1 Sequential Exploratory Design**

A sequential exploratory research design was used in this study. The design was pragmatic and multi-perspectival, meaning that it not only explored the knowledge, feelings, attitudes, perceptions, behaviours and interactions of individuals in natural settings, but it also summarized and generalized the views of defined groups or populations of individuals, and analysed the differences, similarities, and associations that existed between them (Creswell, 2014).

In a sequential design, after one stage is finished, then the other starts and when that stage is finished the next stage starts and so on until the last stage. A sequential design allows for gathering data stage by stage and the findings of each

stage builds on the previous stage, explaining why it is called a sequential design (Creswell, 2014). The sequential exploratory design used in this study involved five sequential stages during the data collection and analysis procedures, as outlined in Figure 3.1.



**Figure 3.1 Sequential research design**

The qualitative part of the exploratory sequential design involved the collection and interpretation of data obtained from a multiple case study. The participants in the multiple case study were selected from primary schools in Dubai. Data were collected in documents and observations of lessons in classrooms, as well as transcripts of interviews with Decision Makers, teachers, and focus groups with parents. The researcher believed that the interpretation of the qualitative data would provide rich and detailed insight into the different ways in which the gifted programmes were implemented, from the multiple viewpoints of each individual Decision Maker, teacher, and parent.

The quantitative part of the exploratory sequential design involved the administration of a survey using a questionnaire to provide generalized information about the current practices used in existing gifted programmes in primary schools in Dubai. The survey data helped to identify the different forms of gifted programmes

that operated in the Dubai primary schools. Because the design was exploratory and not confirmatory, it did not involve the testing of hypotheses.

### **3.5.2 Case Study**

A multiple case study was incorporated into the research design to explore the implementation of the gifted education programmes at the participating primary schools in Dubai. Yin (2012, p.5) defined a case study as “an in depth inquiry that investigates a contemporary phenomenon within its real-life context”. A case study is essentially a qualitative research strategy (Denzin & Lincoln, 2008; Merriam, 2009) and is “one of the most common ways to do qualitative inquiry” (Stake, 2000, p. 435). Yin (2012) claims, “the distinctive need for case studies arises out of the desire to understand complex social phenomena” (p. 2). Green, Camilli and Elmore (2006) claimed that cases studies “investigate important topics not easily covered by other methods” (p. 112).

A multiple case study implies that “...a number of cases may be studied jointly in order to investigate a phenomenon, population or general condition” (Denzin & Lincoln, 2008, p. 445). Bell (2005, p. 9) claims that a successful multiple case study should “provide the reader with a three-dimensional picture and will illustrate relationships, micro political issues and patterns of influences in a particular context”. Multiple case studies “often focus on a classroom, group, teacher or pupil, often using a variety of observation and interview methods as their major tools” (Burns, 2000, p. 461). The case study used by the researcher is also described as

“holistic” as defined by Green, Camilli and Elmore (2006, p. 113) because it involved multiple sub-cases of three schools under the whole case.

### **3.6 Triangulation**

Consistent with the pragmatist paradigm, the researcher believed that a combination of both quantitative and qualitative data would provide the evidence required to make recommendations for improving existing practice in gifted education. Consequently, triangulation was needed to test the validity of the findings. Triangulation involved identifying and interpreting commonalities or convergences (i.e. consistent agreements among the participants) and discrepancies (i.e. consistent conflicts of opinion among the participants). If data collected using both quantitative and qualitative tools are found to be consistent, then the researcher has objective evidence to conclude that the findings may be credible and dependable (Creswell, 2014).

Triangulation was used in this study to improve the validity of the findings by comparing data collected from multiple sources. With regard to research in education, triangulation usually refers to comparison of data collected using three or more methods, such as questionnaires, interviews, focus groups and classroom observations (Denzin, 1997). Triangulation is generally used in educational research to overcome the weaknesses and biases which may arise from the use of only one method. If the results obtained using different methods lead to the same outcomes then the outcomes are more likely to be valid (Fraenkel & Wallen, 2010).

Patton (2002, p. 247) promoted triangulation for programme evaluation by stating “triangulation strengthens a study by combining methods. This can mean using several kinds of methods or data, including using both quantitative and qualitative approaches”; however, the idea of triangulation using different methods was challenged by Barbour (1998, p. 353), who argued that each method has its own assumptions in “terms of theoretical frameworks we bring to bear on our research”.

### **3.7 Selection of Participants**

Access to the seven schools in Dubai was authorised by the authorized Educational Zone in Dubai (DEZ) and was facilitated by the Ministry of Education request letter to the MoE and Dubai Educational Zone explaining the research and its objectives, and asking for permission to enter school for data collection. You can find a copy of the letters in appendix 3/1/1, 3/1/2 and 3/2. The rationale behind asking the MoE for access to the schools was that all of the schools are under supervision of the MoE. The MoE is the authority for implementing all programmes in the governmental schools. Additionally, the MoE know which schools have gifted education programmes. An official permission letter was received from the Dubai Educational Zone nominating three schools, see appendix 3/5/1. And later on another four schools were nominated, see appendix 3/5/2. Both letters gave permission for the researcher to enter the schools and conduct the research.

The researcher selected the schools and participants by purposive sampling. Purposive sampling was used as a deliberate attempt to sample specific groups or individuals so that the sample was representative of the group or type of individual” (Anderson & Burns, 1989, p.100). The inclusion criteria for the selected schools were

established by the researcher as follows: (a) primary school; (b) female teachers; (c) existence of gifted programs; (d) willingness of school administrators and teachers to participate; and (e) a recommendation from the authorized educational zone. The overall sampling design for the seven schools is outlined in Figure 3.2

Three primary schools with gifted education programmes in Dubai were initially selected by the researcher, but few responses were received to the survey questionnaire. Consequently, the number of schools was increased to seven, to increase the number of respondents to the questionnaire. The three initially selected schools were retained for the multiple case study. The seven selected schools were coded alphabetically (A, B, C, D, E, F and G) to ensure anonymity and confidentiality.

Three levels of individual participants were selected for the multiple case study including (a) available and volunteered subject teachers at each school, along with gifted classes teachers and principals or administrators when available; (b), the parents of gifted students at each school; and (c) policy makers from the MoE represented by the head of the gifted section at the Special Needs Department. A total of eight teachers were chosen for the interviews. One decision-makers at the MoE who help in setting the rules for gifted programmes or who supervise implementing of those programmes was interviewed. Additionally two parents were interviewed, which made the total of 11 participants for the interviews.

Five class observations of lessons were conducted. One focus group comprising the parents of gifted students' was conducted at one school. Furthermore,

the MoE official documents regarding gifted education were reviewed. Figure 3.2 illustrates the sampling design.



**Figure 3.2 Sampling Design**

### 3.8 Data Collection

Visits to the participating schools to collect data were made during the academic year 2014/2015. Three to four full day visits were carried out at each school. The multiple case study required repetition of each data collection method at each school. A data collection schedule or plan was therefore created to guarantee systematic data collection in each school, a copy of the schedule can be found in appendix 12/2. The data originally collected on paper were transcribed into Microsoft Word, and stored on files on an external hard disk that was periodically backed up. The files were named according to the code name of each school. The following

sections describe the five data collection methods: (1) questionnaire survey; (2) classroom observations; (3) semi-structured interviews; (4) focus groups; and (5) documents review.

### **3.8.1 Questionnaire Survey**

A survey is defined as "an attempt to obtain data from members of a population to determine the current status of that population with respect to one or more variables" (Fraenkel & Wallen, 2010, p. G-8). To conduct a survey for the current study questionnaire was distributed to teachers at seven selected schools in Dubai. A copy of the questionnaire is provided in 7/1 and 7/2.

A descriptive exploratory cross-sectional survey was administered. The general aim of a descriptive exploratory survey is to describe the status, behaviours, perceptions, attitudes, experiences and other characteristics of a target population with respect to a particular service, product, or issue (Babbie, 2010). The fundamental characteristics of the current exploratory survey were that (a) the teachers were asked to respond to a series of self-report questionnaire items; (b) the responses provided descriptive information about the target population, without changing their environment; (c) the researcher did not assign the participants into groups, nor was any part of the environment manipulated by the researcher.

The survey consists of open-ended and closed-ended items which were divided into three sections. The items were grouped into dimensions according to the research questions. Section 1 elicited demographic information about the participants.

Section 2 consisted of closed-ended items about the existence of gifted programs including definition, identification, programing, policies, budgeting and evaluation. Section 3 contained open-ended questions asking for the participant's suggestions and recommendations to enhance the provision of gifted education. The open-ended questions provided more qualitative details than the closed-ended questions.

The researcher based on the literature review on gifted education developed the questionnaire. Three specialist scholars in the field of gifted education reviewed the content validity of the questionnaire. Based on their feedback some items were revisited and rephrased, whilst other items were added. Further validation was conducted by piloting the questionnaire with nine randomly selected teachers at three schools, before administering it to the larger number of teachers in seven schools. The feedback from the pilot study was used to revise the questionnaire. Because the teachers in the pilot study did not favour online surveys the final version of the questionnaire was distributed on paper.

When conducting an evaluation of educational programmes, it is essential that the researcher aligns the stated research questions directly to the questionnaire items used in the survey (Fraenkel & Wallen, 2010). Table 3.3 lists the closed-ended items in the questionnaire that were specifically designed to elicit responses to address Question 1: What policies are in place to support the provision of service offered for gifted learners in order to contribute to the country's development?

**Table 3.3. Questionnaire Items Designed to Address Research Question 1**

- 
- 21- Is there a national policy for gifted education?
- 22- Does the educational policy have parts related to gifted education?
- 23- In general, does the educational zone caters for the needs of gifted students?
- 24- Is it important to have a specialized department or centre for gifted education?
- 

Table 3.4 lists the closed-ended items in the questionnaire that were specifically designed to elicit responses to address Question 2: How is giftedness defined in Dubai? And how are the gifted learners identified in order to be served?

**Table 3.4. Questionnaire Items Designed to Address Research Question 2**

- 
- 8- Is there a specific definition of ‘gifted’ learners within your school?
- 10- Is this definition is considered as part of SEN (Special Educational Needs)?
- 11- Are the needs of ‘gifted’ learners’ identified in the same ways as the special educational needs of other pupils?
- 12- Do you have a specific screening and identifying procedures for identifying Gifted students in your school?
- 13- If yes, how are gifted students identified?
- 

Table 3.5 lists the closed-ended items in the questionnaire that were specifically designed to address Question 3: What programmes are offered for them? And how they are implemented?

**Table 3.5. Questionnaire Items Designed to Address Research Question 3**

- 
- 14- What provision is provided for gifted students in your school?
- 15- Which gifted programmes are used in your school?
- 16- Who is responsible of gifted programmes in your school?
- 17- Is there a financial fund for gifted programmes?
- 18- Do you have internal evaluation for your gifted programme?
- 19- How often?
- 20.1 How many gifted students have you in the school?
- 20.2 What is their ratio (%) to the total number of students in the school?
- 

The last item in the questionnaire elicited open ended responses to the question: What are your recommendations to improve provision of gifted education? This item was designed to address Question 4: What is needed in order to improve the provision of gifted education in order to contribute to the development of the UAE?

The final version of the questionnaire survey was translated from English into Arabic and distributed to the seven schools, which use Arabic as their medium of instruction. Back translation was used to translate the responses from English into Arabic. A sample of a note in Arabic translated into English is presented in appendix 3/3. Back translation is one of four ways to ensure quality and equivalence of translated materials (Brislin, 1970). The English version of the questionnaire was translated into Arabic by three native colleagues who are fluent in English. The Arabic and English versions were reviewed and revised by another group of bilingual colleagues. The Arabic version was reviewed by another group of bilingual

colleagues who translated it back to English. The back-translated version was similar to the original version.

### **3.8.2 Classroom Observations**

Observation is defined in Bailey (2001, p.114) as “the purposeful examination of teaching and/or learning events through the systematic processes of data collection and analysis”. Robson (2002) claim that the reason for using observation is because it is an “appropriate technique to get at real life in the real world” (p.310). Accordingly, observation was justified as an appropriate method to collect qualitative data to address the research questions concerning the implementation of gifted education programmes. The researcher’s role in observation was that of a non-participant to avoid bias and to ensure objectivity during data collection and interpretation (Mertens & Mclaughlin, 2004).

A total of five classroom observations was conducted. The observations were organized prior to the interviews of teachers in order to avoid leading the participants toward any desired actions based on interview questions (Glense, 2011). The main focus of the observation was the practice of gifted programmes in the classroom and how gifted students participated in class. The observations helped the researcher to understand exactly what happened in real classroom settings with regards to the gifted learners’ education opportunities. The approximate time for each classroom observation was forty-five minutes.

A sample of notes used in the observation is presented in appendix 5/2 to 5/6. Coding scheme was used to record the data. In addition the lessons were voice recorded whenever the teacher gave permission. A semi-structured observation instrument was created for observing the classroom lessons. A pilot study was conducted to develop this instrument to ensure its non-subjectivity and it needs for minimal interpretation (Muijs, 2006). An observation guide was created to help the researcher stay focused, see appendix 5/1 for a copy of the guide. In addition a reflective journal was used to record the details.

### **3.8.3 Semi-structured Interviews**

According to Silverman (1993) as cited in Cohen et al. (2000, p. 146) interviews involve “gathering facts, accessing beliefs about facts, identifying motives, commenting on the standards of actions, explaining behaviour and eliciting reasons and explanation”. Interviews were used in the current research to complement the data obtained from the classroom observations and questionnaires. The advantage of interviews relative to questionnaires was that they permitted the researcher to develop a rapport with each respondent and to assist their responses, for example by clarifying questions and encouraging discussion. (Merriam, 2009). The other advantage of using interviews was that they provided information that could be compared and contrasted with information collected from other sources used in the same study, including the questionnaires. The disadvantage of interviews relative to questionnaires was that the data collection time was much longer, so the number of respondents that could be interviewed in a given amount of time was less than could be surveyed using a questionnaire (Fraenkel & Wallen, 2010).

A semi-structured interview approach was used to provide information regarding the perceptions and experiences of each individual participant (one decision maker at the MoE, eight school teachers and two parents of gifted children) regarding giftedness and gifted education. When conducting an evaluation of educational programmes using interviews with administrators, teachers, and parents of students, it is essential that the researcher align the stated research questions directly to the interview questions (Fraenkel & Wallen, 2010). Table 3.6 lists the interview questions that were specifically designed to elicit responses to address Question 1: What policies are in place to support the provision of service offered for gifted learners in order to contribute to the country’s development? Table 3.7 lists the interview questions that were specifically designed to elicit responses to address Question 2: How is giftedness defined in Dubai? And how are the gifted learners identified in order to be served? Table 3.8 lists the interview questions to address Question 3: What programmes are offered for them? And how they are implemented. Table 3.9 list the interview questions that were specifically designed to address Question 4: 4. What is needed in order to improve the provision of gifted education in order to contribute to the development of the UAE?

**Table 3.6 Interview Questions Designed to Address Research Question 1**

Respondent	Interview Question
MoE	What is the Ministry’s current plan for gifted education?
MoE	What is the theoretical background of the gifted programmes and the philosophy behind those programmes
MoE	What are the curriculum and teaching instructions the Ministry use?
MoE	What are the Ministry’s policies regarding gifted education?

MoE	What are the Giftedness Sections' responsibilities?
MoE	What is the initiative of developing the skills of gifted and talented students?
MoE	What is the practical manual for gifted programmes?
MoE	What are the General Rules for Special Education programmes?
Parent of Gifted Child	Is there a law for gifted education?
School teacher	Is there a plan for gifted learners in your school?
School teacher	Is there a law or policy for gifted students?

**Table 3.7 Interview Questions Designed to Address Research Question 2**

Respondent	Interview Question
MoE	What is the definition of gifted or talented?
MoE	What is the identification plan and procedures the Ministry adopt?
Parent	How did you identify that your child is gifted?
Parent	What is the school's role in nurturing your child's gifts?
School Teacher	What is the definition of giftedness?
School Teacher	How do you identify a gifted student in your subject?
School Teacher	Is there an official procedure in your school for identifying the gifted students?

**Table 3.8 Interview Questions Designed to Address Research Question 3**

Respondent	Interview Question
MoE	What were the Ministry's programmes for gifted education (before 2008)?
MoE	What are the Ministry's programmes and plans for gifted and talented students in 2014 and 2015?
MoE	What are the Ministry's plans regarding educating gifted students (2008 onwards)?
Parent of Gifted	What is the school's role in nurturing your child's gifts?

Child	
School Teacher	What do you prefer for gifted learners; a special classrooms or regular classrooms?
School Teacher	What are the gifted programmes offered by you for gifted students in your class?
School Teacher	What are the Ministry of Education’s programmes for the gifted learners?
School Teacher	What are the gifted programmes offered by you for gifted students in your class?
School Teacher	Is there an allocated budget for gifted programmes in your school?
School Teacher	Is there a resource room in your school for the gifted learners?

**Table 3.9 Interview Questions Designed to Address Research Question 4**

Respondent	Interview Question
MoE	Do you evaluate gifted programmes?
MoE	Is there any professional development for teachers working with gifted students?
Parent	What is your role in nurturing your child’s gifts?
Parent	What is your ambition for your gifted child?
Parent	Is what’s offered now for your gifted child is enough?
Parent	Any suggestions to improve gifted provision?
School Teacher	What are the barriers for gifted education improvement?
School Teacher	Any additions or suggestions for improving gifted provision?
School Teacher	Is there a training offered for you on gifted education?

If an interview is unstructured, with no formal questions, then the researcher may control the flow of information, so that the participant may provide biased answers. If the researcher does not effectively control the discussion, the interview may digress from answering the research questions (Merriam, 2009). Consequently,

the researcher used a semi-structured approach, based on a verbal questionnaire as the most effective way to elicit specific items of detailed information from the respondents. The semi-structured approach allowed for adjusting the wording of the questions during the interview.

The interview questions were first piloted with three teachers to ensure their clarity. An interview guide was created and piloted with doctoral colleagues whom feedback was used to clarify ambiguous questions. The instrument was piloted with three teachers to ensure its clarity. The final version of the instrument was revised following their feedback. The instrument was prepared in Arabic and translated to English using back-translation technique. See appendix 4/1, 4/2 and 4/3.

The interviews were conducted with 11 participants as follows: one decision-makers from the MoE level, eight teachers from the participating schools and the parents of two gifted students. The approximate time for each interview was 45 minutes. Each interview took place in the participant's place of work (i.e. at school or the MoE).

The interviews were conducted during most convenient time for the interviewees. Permission was obtained from the participants to electronically record the interviews; however, the majority did not agree to recording. Consequently, field note taking with pen and notebook was used during the interviews. Then summaries of relevant responses were transcript, see appendix 4/5 to 4/15 for summary of responses.

### **3.8.4 Focus Groups**

A focus group is a particular type of interview with multiple participants that is supported by a specialized infrastructure, including: (a) the location where the meeting between the researcher and the participants takes place; (b) multiple participants are selected because they have an interest in the topic of the research; and (c) the researcher, manages the verbal interactions between the members of the focus group (Merriam, 2009). Accordingly, focus groups with parents were conducted to explore the parents' opinions about the programmes offered for their gifted children. The approximate time each focus group was 90 minutes with one 15 minutes break.

The key difference between a focus group and an interview is that a focus group involves multiple participants, whereas an interview is a face-to-face interaction between one researcher and one respondent. The weakness of an interview compared to a focus groups is that one respondent may only directly answer specific questions, so the responses are dependent on the quality of the questions. Managing a focus group is more demanding than interviewing one person, because the questions and responses may evolve according to the direction of the discussion. Consequently, the strength of a focus group is its capacity to produce unexpected outcomes and new perspectives (Merriam, 2009). Denzin and Lincoln (2008) suggested that focus groups help to obtain elaborative data about the issue under study.

A set of questions was prepared and used by the researcher during the focus groups; however, the meetings were informal, and in conversational manner, in order

to encourage the parents to freely give their opinions. See appendix 6/1 for focus group guided questions. The questions that were asked by the researcher to guide the discussion at the focus groups are listed in Table 3.10.

**Table 3.10 Questions Used to Guide Discussion at Focus Group**

- 
1. Do you know about any policies that are in place to support the provision of service offered for gifted learners at the school?
  2. How did you know that your child is gifted?
  3. What do you do for you child at home to nurture his or her gift?
  4. What gifted programmes are provided for your child in school?
  5. What is your suggestion to improve the provision of gifted education in the school?
- 

The role of the researcher at the focus groups was a facilitator rather than a participant in order not to influence any of the participants' views and also to encourage the participants to elaborate their comments. The data collected from each focus group session were recorded by the researcher and summarized in a Microsoft Word file. See appendix 6/2 for a summary of parents' focus group responses.

### **3.8.5 Review of Documents**

Official documents were reviewed to complement the data obtained using interviews and classroom observations as recommended by Glesne (2006). The documents included: (a) official school documents regarding the implementation of gifted education, including students records, portfolios, and lesson plans; (b) MoE official decrees and rules regarding gifted education; (c) documents provided by the

Knowledge and Human Development Authority (KHDA) including action plans for gifted education; (d) UAE annual education reports regarding policies for gifted education; (e) international documents including UNESCO papers, scholarly articles and NAGC standards; and (e) related articles from national newspapers (e.g., Albayan, Alkhaleej, Khaleej Times, The National, Gulf news) covering the period from 2008, when the gifted programs reform started. Additionally, ‘School for All’ – General Rules for the Provision of Special Education Programs and Services’ guideline was reviewed and related regulations were examined. On the school level, official documents were reviewed with respect to the implementation of gifted programs in the schools. Detailed information obtained from documents on the gifted programs is presented in chapter 4 under section 4.6.

### **3.9 Data Analysis**

A database was built with a separate folder for each school coded by A, B, C, D, E, F and G. Subfolders were created within each folder, according to the name of the instrument used (i.e. interviews, observations, documents, focus groups and questionnaires).

#### **3.9.1 Quantitative Analysis**

A descriptive exploratory approach was used to analyse the questionnaire survey data. The frequency distributions of the responses to each item were analysed in order to address the research questions, as listed in Tables 3.2, 3.3 and 3.4. Although 150 questionnaires were distributed, 27 teachers did not complete the questionnaire, therefore the sample size used for the data analysis was 123. All the

questionnaire responses were categorical, meaning that they consisted of responses partitioned into predefined categories, such as “Yes or “No”; or else the respondent had to choose one or more items from a list of given items. A descriptive analysis of the categorical data was conducted using the “Analyse – Descriptive Statistics - Frequencies” procedure in SPSS, following Field (2011). The frequencies (counts and percentages) of the responses to each question were tabulated.

Following the tradition of exploratory data analysis, this study did not involve the testing of hypotheses using inferential statistical tests such as Chi Square, t-tests, or correlation. Exploratory data analysis was originally promoted by Tukey (1977) to encourage researchers to search for relationships and patterns among data, rather than to test predefined hypotheses using inferential statistics. Tukey (1980) argued that too much emphasis is placed on confirmatory data analysis, and more emphasis needs to be placed exploratory data analysis. Subsequently, many other authors have criticized the use of inferential statistics in social science. Nickerson (2000, p. 241) referred to statistical hypothesis testing as “an old and continuing controversy”. Krueger (2001, p. 16) called hypothesis testing “a flawed method”. Wagenmakers (2007, p. 779) considered that the widespread misuse of p-values was “a pervasive problem”. Zilak & McCloskey (2008, p.1) referred to the dependence on inferential statistics in the USA as the “cult of statistical significance” and claimed that it has cost justice, jobs, and lives. Hubbard & Lindsay (2008) explained why p-values were not useful measures of scientific evidence. Orlitzky (2012) argued that statistics based on hypothesis testing should be deinstitutionalized. For these reasons, some international journals in social science have recently banned the publication of articles which include inferential statistics including p-values (Trafimow & Marks, 2015).

### **3.9.2 Qualitative Analysis**

Green, Camilli and Elmore (2006 p.117) claimed that analysing the data collected from the different methods of data collection in a case study will “speak for themselves”. Many researchers using qualitative research methods do not describe in sufficient detail how they interpreted their data (Babbie, 2010; Creswell, 2014). Consequently, it may be difficult to determine the validity of the conclusions they draw from qualitative analysis. For this reason, the qualitative methods used to analyse the information obtained using the semi-structured interviews and focus groups in this study are described here in detail. Furthermore, the qualitative analysis involved bracketing, meaning that the researcher attempted to detach her own views from the process of qualitative analysis (Merriam, 2009).

The qualitative data were analysed using content analysis. The data were first horizontalized, assuming that all of the statements had equal value. After conducting a critical review of the text, irrelevant information was excluded, including the names of the participants, to ensure that their right to confidentiality was respected. The content analysis was based on the constant comparison method as described by Burns (2000) and Leech & Onwuegbuzie (2007) in which the material was coded into themes. The units of the content analysis were the responses of each participant to the questions posed by the researcher. These responses were recorded verbatim, and were entered into the content analysis in full. The responses were not summarized, slanted,

or distorted, and the researcher avoided subjective interpretation of their meaning. This strategy ensured that the responses of the entire participant were included, and all were given equal priority.

Each primary theme represented a separate issue, topic, concept, or proposition. The four research questions and their corresponding themes were identified prior to the content analysis. Consequently a top-down or a priori approach (i.e. identifying the units of analysis which corresponded to each primary theme) was applied. A natural classification of sub-themes occurred with each theme, based on the phrasing of the research questions. The coded categories were then grouped by similarity, and a theme was identified based on each grouping.

### **3.10 Validity**

A key issue addressed by quantitative researchers is internal validity, defined as the extent to which the researcher's measurements actually measure what the researcher intended to measure, particularly with regard to the relationships between hypothetical causes and effects (Creswell, 2014). For the purposes of qualitative research, however, the concept of internal validity is redefined in terms of credibility or trustworthiness (Lincoln & Guba, 1985). Credibility implies establishing that the results of qualitative research are believable. Credibility means that the participants involved in qualitative research believe what they say or write is true, because they are the only ones who can legitimately judge the believability of the findings.

Trochim (2006) added the concepts of transferability and dependability to the assessment of the validity of qualitative data. Transferability refers whether the

findings can be generalized to settings outside the seven schools that participated in this study. Transferability could be threatened because the data and conclusions were derived from relatively few participants working in local settings. Dependability is an assurance that the research accurately observed what it intended to observe. The dependability of the current study was enhanced by relating the research questions and instruments to a conceptual and empirical framework based on a literature review (Creswell, 2014).

Validity issues were implicated, if the respondents provided false answers to questionnaire or interview questions, because they had personal feelings to hide, or if they were sensitive issues that they did not want to share (Creswell, 2014). Although it is easy to record what people actually state at one moment in time, it is much more difficult to interpret their underlying feelings, thoughts, and intentions, or what they felt, thought, and intended at a previous moment in time. Also it is was not always easy to extract from the written or spoken responses exactly how the participants organized their thoughts about gifted education in their own mind, and the meanings and perceptions they attached to giftedness. To ensure the validity of the data, several strategies were used, including (a) prolonged engagement on site; (b) member checking; (c) peer debriefing, and (d) triangulation, as recommended by Glesne (2011) and Creswell (2014).

Prolonged engagement of the researcher was used to allow for collecting sufficient amount of data to answer the research question. The data collection happened during one academic year starting at the third term of 2014 and ended in the third term of 2015. School year is divided into three terms in the UAE, first term

starts on September, second starts on January and third usually starts on end of March or beginning of April. The study extended through one academic year April 2014 to April 2015. Each school was visited three to four times; each visit is full day visit.

Member checking was employed whenever possible to validate interview transcripts. Data obtained from the interviewee were transcribed and summarized in a Microsoft Word file, before being sent to the interviewees for member checking. This checking was required to validate the transcription of the data obtained from the interviews (Lincoln & Guba, 1985). The participants were provided with the researcher's transcriptions of the interviews and they subsequently confirmed that the researcher's interpretation of their responses was justified. The participants also confirmed that their anonymity and confidentiality had been respected by excluding all names from the transcripts. Additionally, peer debriefing was used to reflect on the data collected and how useful it was to answer the research questions. Peer debriefing including supervisor consultation was useful to disclose the personal bias of the researcher.

Triangulation was used to search for consistent patterns across the qualitative and quantitative data in order to improve the validity of the findings; however, quantitative and qualitative data are not always consistent because the mixed method approach accesses different types of responses from the participants. Quantitative data are based on the positivist paradigm, assuming that facts are not related to feelings, whereas qualitative data are based on the constructivist paradigm, assuming that facts are related to feelings. Triangulation may therefore invite contradiction and tension between the positivist and constructivist approaches to collecting and analysing data

(Morse, 1991; Denzin, 1997). Consequently, the perceptions of individuals collected using questionnaires, interviews, and focus groups are not necessarily facts, but are subjective realities, so that what the participants say is not necessarily exactly the same as what they actually believe or do in reality (Willis, 1998). Furthermore, it was not expected that all of the participants would agree about the issues associated with gifted education in the UAE, due to their different levels of knowledge and experience.

### **3.11 Limitations**

The first limitation was that the pool of available schools for this study was small. Only seven schools in Dubai were available for the study after satisfying the selection criteria. Moreover, the multiple case study could be only oriented around three schools out of the seven. The second limitation was that the study was restricted to female teachers because only females teach the primary level in the UAE. Consequently, the external validity of the results (i.e. the ability to generalize the results from the small sample of schools to the whole population of primary governmental schools in UAE) may be limited.

The third limitation was that research on gifted education in the context of the Arab culture is limited, and so the conceptual and empirical framework of this study relied mainly on information derived from research in Western cultures. It is possible, for example, that the NAGC criteria may not be entirely appropriate in the context of gifted education in the UAE.

The fourth limitation was that the research created apprehension at the schools. The schools were initially reluctant to participate in the study; however, repeated visits to the schools built a trusted relationship between the researcher, teachers, and administrators. Nevertheless, it is possible that, due to their apprehension, the participants may have provided biased responses to questionnaire and interview questions. Their responses could be distorted by social desirability bias referring to the respondents' desire, at either a conscious or subconscious level, to present a favourable image of themselves, and/or their organizations (King & Bruner, 2000). Socially desirability bias includes giving emphasis to the reporting of behaviours or beliefs that are perceived to be desirable, whilst avoiding to report behaviours or beliefs that are perceived to be undesirable (Holtgreaves, 2004). The responses may also have been contaminated by acquiescent response bias, which is the tendency of some respondents to give positive, agreeable, or optimistic answers to most questionnaire items, irrespective of whether or not they believe these answers to be true (Paulhus, 1991). These sources of bias are known to be prevalent among Asian and Middle Eastern respondents, particularly if (a) they are naturally very polite and respectful people, who prefer to avoid any type of argument or social risk-taking, so they provide responses which they think will maintain good relationships with others, or gratify the researcher; and (b) they do not respond to the items according to their own individual perceptions, but follow the collectivist perceptions of their own group or culture (Baron-Epel et al., 2010; Lalwani & Shavitt, 2006; Smith, 2004).

The fifth limitation was the researcher's background and career as a gifted education advocate. The researcher worked previously in UAE at the MoE and is currently working in an organization dealing with gifted education. The use of

interpretivism within the context of a qualitative analytical strategy implied that the researcher must be reflexive (Holland, 1999; Finlay, 2002). Reflexivity meant that it was necessary for the researcher, as a stakeholder with a professional interest in gifted education in UAE to be aware of the role she played in constructing knowledge, and to explain how and why she came to certain conclusions. The validity of the content analysis depended the researcher's integrity to report the results accurately. For the purposes of this study the researcher tried to interpret the responses of the participants without bias. She did not give preference to the responses of certain participants, which agreed with her own personal views, nor did she exclude any responses that were directly opposed to her own personal views. As a stakeholder, nevertheless, the researcher found it difficult to take a neutral stance. Her personal viewpoint could potentially lead her to focus on certain aspects of there more than others. Being involved in gifted education made it difficult for the researcher to avoid bias and contaminate the results with personal opinions. In order to avoid bias, the researcher was self-critical, in order to ensure the validity of the data and the conclusions, as well as adhering to the ethics guideline obtained and approved by the university. A copy of this letter is provided in appendix 4/4.

The sixth limitation was sharing personal opinions with interviewees, which could influence their responses. The researcher restrained herself from showing signs of approval or non-approval on a response was difficult. The researcher made efforts not to influence participants though stopping verbal or non-verbal gestures. To overcome these limitations, several strategies were used to ensure the validity of the results as described in Section 3.9.

The seventh limitation was the time line. Mixed methods studies require a considerable amount of time and effort to complete successfully (Creswell, 2014) and the limited time line was a challenge. The data collection began from the very first week after a break of the schools, and obtaining approval and collecting data from all the teachers, who were busy preparing activities for the students, took a long time to complete. Getting approval from all concerned parties took long time, which affected on delaying the time was planned for the study to begin in. Furthermore, the researcher was diagnosed with a rare chronic disease, which influenced the length of time, spent on data collection. The study was postponed for that reason for one year.

The final limitation was back translation to ensure the quality of the translated materials. As a non-native English speaker translating material from and to Arabic was a challenge as well as transforming ideas and reflections into written materials. In addition, a native English speaker was hired to proof-read all the chapters of this dissertation. Nevertheless, communicative problems in the translation of Arabic to English could have occurred. English translations only approximate linguistic devices that are indigenous to Arabic (Shiyab, 2006). The English translations, therefore, may not have translated the entire depth of meaning contained within the Arabic responses.

### **3.12 Ethical Considerations**

Ethical considerations are of particular concern to the planning and execution of educational research, which involves making decisions that are going to affect the lives of other people. (Cohen et al., 2007). Consequently, the researcher was bound by codes of good conduct, concerned with addressing moral questions of right and wrong.

There are three broad areas of ethical concern to researchers working in social settings: first, the ethics of data collection and analysis; second, the ethics of the treatment of participants; and third, the ethics of responsibility to society (Singleton & Straits, 2005) Ethical data collection and analysis involved adherence to codes of good conduct for the observation, processing, and reporting of findings, including the avoidance of plagiarism, mistakes, negligence, and fraud. The ethical treatment of participants involved the observance of codes of good conduct designed to ensure that participants were protected from physical or psychological harm, discomfort, and danger. Ethical treatment ensured the welfare of the participants, and required formal codes of practice associated with risk assessment, informed consent, privacy, confidentiality, and deception.

The ethical guidelines of the British University in Dubai (BUiD) were followed. A copy of this guideline is provided in appendix 4/4. Because the study includes human subjects, an application was submitted to the BUiD Review Board for approval, you could find a copy in appendix 2/1. A code of practice was created specifically for this study to resolve possible ethical issues. The main principles of the code of practice used in the current study were derived from Marshall and Rossman (2011, p. 47) requiring “respect for persons”, “beneficence”, and “justice”. “Respect for persons” implied that participants’ rights and dignity were respected and that the researcher was aware of her professional and scientific responsibilities to society and to the specific communities where they lived and worked. “Beneficence” implied that this study did not pose any physical risk to the participants nor did it apply any unethical techniques, such as fraud, subterfuge, or intentional misrepresentation of

fact. Any emotional or mental risk to the participants was minimal, because they did not appear to feel uncomfortable discussing their opinions. “Justice” implied that researcher attempted to reduce bias to the minimum, and any risks to the participants were balanced by the beneficial outcomes of the research to society.

The code of practice also followed the Social Research Association (2003, p. 14) recommendation that “the researcher must strive to protect subjects from undue harm arising as a consequence of their participation in research. The subjects’ participation should be voluntary and as fully informed as possible and no group should be disadvantaged by routinely being excluded from consideration”.

Accordingly, an informed consent form was obtained from the school principals before the data were collected. A copy of this form is provided in appendix 1/1 and 1/2. The principals were informed that it was their responsibility to obtain teachers’ and parents’ approval using the required consent forms. All participants were assured that their participation was voluntary and they could withdraw anytime. Their identities, confidentiality and job security would not be compromised. The anonymity of the names of the schools and the participants was assured through the use of pseudonyms.

The ultimate goal of this study was to provide recommendations to help improve the implementation of gifted education in Dubai. Because the researcher ostensibly applied ethical principles to collect, analyse, interpret, and report the findings, then researcher suggests that the MoE should be able trust the conclusions of this study, and implement the recommendations with impunity.

## **CHAPTER FOUR: RESULTS**

### **4.1 Introduction**

The purpose of this chapter is to present the evidence collected using the mixed methods approach to address the following research questions:

1. What policies are in place to support the provision of service offered for gifted learners in order to contribute to the country's development?
2. How is giftedness defined in Dubai? And how are the gifted learners identified in order to be served
3. What programmes are offered for them? And how are they implemented?
4. What is needed in order to improve the provision of gifted education in order to contribute to the development of the UAE?

### **4.2 Questionnaire**

The results of the questionnaire survey are presented in four sections. Section The first section describes the characteristics of the respondents. The next four sections summarize the participants' responses to the questionnaire, categorized by the four research questions.

#### **4.2.1 Characteristics of Questionnaire Respondents**

The socio-demographic characteristics of the 123 teachers who participated in the survey are summarized in Table 4.1. The teachers were recruited from seven schools in Dubai. The number of teachers recruited from each school ranged from 9 to 24. Their subjects included English, Arabic, Religion, Social, Math, Science,

Information Technology, Special Needs, Resource Room, Art, and Sports. The nationality of the majority (84, 68.3%) of the teachers was UAE, with the remainder coming from Syria, Jordan, Palestine, Egypt, Yemen, Tunisia, and Sudan. Most of the teachers (110, 89.4%) had been awarded a Bachelor Degree.

**Table 4.1 Demographic Characteristics of Questionnaire Respondents**

<b>Characteristic</b>	<b>Category</b>	<b>Frequency</b>	<b>%</b>
<b>School</b>	1 = School A	23	18.7
	2 = School B	15	12.2
	3 = School C	9	7.3
	4 = School D	18	14.6
	5 = School E	19	15.4
	6 = School F	15	12.2
	7 = School G	24	19.5
<b>Subject</b>	1 = English	19	15.4
	2 = Arabic	24	19.5
	3 = Religion	14	11.4
	4 = Social	6	4.9
	5 = Math	12	9.8
	6 = Science	13	10.6
	7 = Information Technology	5	4.1
	8 = Special needs	3	2.4
	9 = Resource Room	2	1.6
	10 = Art	3	2.4
	11 = Sports	8	6.5
	No response	14	11.4
<b>Nationality</b>	1 = UAE	84	68.3
	2 = Syria	5	4.1
	3 = Jordan	7	5.7
	4 = Palestine	2	1.6
	5 = Egypt	12	9.8
	6 = Yemen	1	0.8
	7 = Tunisia	2	1.6
	8 = Sudan	1	0.8
		No response	9
<b>Education</b>	1 = Bachelor	110	89.4
	2 = Masters	4	3.3
	3 = PhD	0	0.0
	4 = Other	9	7.3
<b>Age (Years)</b>	1 = 20-30	18	14.6
	2 = 31-40	51	41.5
	3 = 41-50	47	38.2

<b>Years of Experience</b>	1 ≤ 5 years	15	12.2
	2 = 6 – 10 years	22	17.9
	3 = 11- 15 years	25	20.3
	5 = 16- 20 years	35	28.5
	5 = 20 – 24 years	25	20.3
	6 ≥ 25 years	1	0.8

The teachers ranged in age from 20 to 60 years old, but the majority were aged 31 to 40 (51, 41.5%) or 41 to 50 (47, 38.2%). Their experience ranged widely from less than five to over 25 years. The most frequent range of experience was 16 to 20 years (35, 28.5%) followed by 20 to 24 years (25, 20.3%) and 11 to 15 years (25, 20.3%).

The characteristics of the participants concerning gifted education at their schools are summarized in Table 4.2.

**Table 4.2 Gifted Education Characteristics of Questionnaire Respondents**

<b>Question</b>	<b>Response</b>	<b>Frequency</b>	<b>%</b>
1- Do you have strategic gifted education plans for your school?	0 = No	19	15.4
	1 = Yes	103	83.7
	No response	1	0.8
2- Do you have any sort of gifted education in your school?	0 = No	20	16.3
	1 = Yes	102	82.9
	No response	1	0.8
3- Have you ever worked with gifted students?	0 = No	40	32.5
	1 = Yes	81	65.9
	No response	2	1.6
4- Have you been trained on gifted programmes?	0 = No	52	42.3
	1 = Yes	71	57.7
5- What type of training did you receive?	1 = Workshop	45	36.6
	2 = Conferences	2	1.6
	3 = Certified	3	2.4
	4 = Courses	5	4.1

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6- How often you get training in gifted education	1 = Once a year	31	25.2
	2 = Twice a year	15	12.2
	3 = Three times a year	7	5.7
	4 = Four times a year	4	3.3
	5 = Once in a month	2	1.6
	6 = Twice in a month	0	0.0
	7 = Three times a month	0	0.0
	8 = Four times a month	0	0.0
	9 = Other	12	9.8
	No response	52	42.3
7- Do you think that the staff in your school have positive attitude towards gifted students?	0 = No	8	6.5
	1 = Yes	111	90.2
	No response	4	3.3

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The teachers reported that most of their schools (103, 83.7%) had strategic gifted education plans and that some sort of gifted education was implemented at their schools (102, 82.9%). About two thirds of the teachers (81, 65.9%) stated that they had worked with gifted students, and over half of the teachers (71, 57.7%) reported that they had been trained on gifted education programmes. The most frequent type of training was workshops, attended by over a third of the teachers (45, 36.6%). Conferences, certified, and courses were infrequent types of training in gifted education. About one quarter of the teachers (31, 25.2%) reported that they had training in gifted education once a year. None of the teachers had training in gifted education for more than once in a month. The vast majority of the teachers (111, 90.2%) thought that the staff in their school had positive attitude towards gifted students.

#### **4.2.2 Research Question 1: Questionnaire Responses**

In this section, the responses to the questionnaire are presented to address

Question 1: What policies are in place to support the provision of service offered for gifted learners in order to contribute to the country’s development? Table 4.3 summarizes the responses of the teachers to questions concerning education policy. Those teachers who did not reply to the question were recorded as “No response”. The questionnaire did not give the respondents an option to state that they were not sure or they did not know the answer to the question. It is therefore possible that “No response” implied that the teacher was unsure, or did not know the answer. Over half of the teachers (69, 56.1%) believed that there is a national policy for gifted education in Dubai. Over three quarters (86, 69.1%) believed that the educational policy has parts related to gifted education, and a similar proportion (80, 65.0%) believed that, in general, the educational zone caters for the needs of gifted students. The vast majority of the teachers (116, 94.3%) believed that it is important to have a specialized department or centre for gifted education.

**Table 4.3 Education Policy: Questionnaire Responses**

<b>Question</b>	<b>Response</b>	<b>Frequenc y</b>	<b>%</b>
21- Is there a national policy for gifted education?	0 = No	28	22.8
	1 = Yes	69	56.1
	No response	26	21.1
22- Does the educational policy have parts related to gifted education?	0 = No	23	18.7
	1 = Yes	85	69.1
	No response	15	12.2
23- In general, does the educational zone caters for the needs of gifted students?	0 = No	30	24.4
	1 = Yes	80	65.0
	No response	13	10.6
24- Is it important to have a specialized department or centre for gifted education?	1 = Very important	116	94.3
	2 = Somehow important	3	2.4
	3 = Sometimes important	0	0.0
	4 = Not important	0	0.0
	No response	4	3.3

### 4.2.3 Research Question 2: Questionnaire Responses

In this section, the responses to the questionnaire are presented to address Question 2: How is giftedness defined? And how are the gifted learners identified in order to be served? Table 4.4 summarizes the responses of the teachers to closed ended questions concerning the definition and identification of giftedness. Similar to the responses to the questions concerning education policy, it is possible that “No response” implied that the teacher was unsure, or did not know the answer.

Over half of the teachers (75, 61.0%) agreed that there was a specific definition of ‘gifted’ learners within their school. About three quarters (89, 72.4%) believed that this definition was considered as part of SEN (Special Educational Needs). Over two thirds (86, 69.9%) believed that the needs of gifted learners’ were identified in the same ways as the special educational needs of other pupils. Nearly three quarters (90, 73.2%) of the teachers reported that they had specific screening and identifying procedures for identifying gifted students in their schools. The most frequent ways in which gifted students were identified were teacher’s nomination (61, 49.6%); achievements test (60, 48.8%); IQ test (51, 41.5%) and students’ product (51, 41.5%). The least frequent ways to identify gifted students included checklist (2, 1.6%); psychologist/social test (21, 17.1%) and creativity test (27, 22.0%).

**Table 4.4 Definition and Identification of Giftedness: Questionnaire Responses**

Question	Response	Frequency	%
8- Is there a specific definition of ‘gifted’ learners within your school?	0 = No	43	35.0
	1 = Yes	75	61.0
	No response	5	4.1
10- Is this definition is considered as part of SEN (Special Educational Needs)?	0 = No	31	25.2
	1 = Yes	89	72.4
	No response	3	2.4

11- Are the needs of ‘gifted’ learners’ identified in the same ways as the special educational needs of other pupils?	0 = No	31	25.2
	1 = Yes	86	69.9
	No response	6	4.9
12- Do you have a specific screening and identifying procedures for identifying gifted students in your school?	0 = No	27	22.0
	1 = Yes	90	73.2
	No response	6	4.9
13- If yes, how are gifted students identified? (More than one option)	1 = IQ test	51	41.5
	2 = Achievements test	60	48.8
	3 = Teachers’ nomination	61	49.6
	4 = Parents’ nomination	46	37.4
	5 = Characteristics test	30	24.4
	6 = Creativity test	27	22.0
	7 = Students’ product	51	41.5
	8 = Psychologist/Social test	21	17.1
	9 = Standardized tests	42	34.1
	10 = Checklist	2	1.6

Table 4.5 summarizes the written responses of 41 teachers, classified by the code names of their school, to the open ended part of Question 8: Is there a specific definition of ‘gifted’ learners within your school? A content analysis was conducted to classify the answers into emergent themes.

**Table 4.5 Definition of Giftedness: Open Ended Questionnaire Responses**

School	Answer	Theme
B	Is who have high aptitudes and abilities	Ability/Performance
B	It’s a special genetic abilities that is not assigned to high IQ scores. E.g., Students who have disabilities could be gifted in Art, Drawing or counting	Ability/Performance
B	Who have high abilities in different domains that is higher than his peers.	Ability/Performance

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B	It is the child who have high abilities and needs special care	Ability/Performance
B	Those who have abilities and aptitudes in different areas	Ability/Performance
B	Who benefits from Resource Room	Resource room
C	Giftedness means owning a special abilities, for example in science the student could be gifted in lab projects or innovation	Ability/Performance
C	Gifted student is who have genetic high abilities Gifted programs work towards the growth of those abilities	Ability/Performance
C	Giftedness is for a group of people who are very distinguished and creative in their actions and thoughts. And who have un usual interests and they are bigger in their mind and way of thinking	Creative
C	Giftedness is the characteristics that is obvious	Obvious
D	Who is capable to do un usual performance in daily tasks	Ability/Performance
D	Who have high ability in understanding	Ability/Performance
D	Who have high abilities compared to their peers	Ability/Performance
D	Distinguished students in their abilities and performance	Ability/Performance
D	Who has high IQ and distinguished performance compared to his peers	Ability/Performance
D	Who has noticeable abilities compare to his colleagues in class	Ability/Performance
D	Any student who have creative skills in some of school subjects: science, math, Languages, etc.	Creative
D	Who can perform and produce differently than others	Different
D	Who produce different thing than his peers	Different
D	High standards product	High scores
D	Who accomplish a certain job in a way that is superior to his peers	Superior

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D	Who is talented in school subjects or activities	Talented
D	Who is able to understand more than others	Talented
D	Every student who is talented in drawing, speech, sports, music, scientific subjects like math and science	Talented
D	Who produce advanced outcome in his domain of talent	Talented
E	It is the distinguished performance and cooperative work	Ability/Performance
E	Distinguished performance compare to others in one of the following or more: high IQ, academic achievement, commitment, motivation, flexibility, independence)	Ability/Performance
E	An ability in achieving high performance in academic achievement and produce new ideas.	Ability/Performance
E	Who is having higher ability than his peers in math or science or language or art or sports	Ability/Performance
E	Who has aptitude or ability in subjects like math and science	Ability/Performance
E	Who is scoring high in school subject is usually seen as gifted in most schools	High scores
E	It is the UAE definition for giftedness represented by the Ministry of Education definition which say: gifted students are those who show exceptional aptitude or abilities or high performance in one or more of the following areas: mental abilities, academic achievement, creative thinking.	MoE
E	The definition provided by ministry of education in the guideline of general rules	MoE
E	Giftedness definition is based on Renzulli's Model where he see it as interjection of three areas: high IQ, high Commitment and high creativity skills. The interlaced area of those three areas present the giftedness	Renzulli's model

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E	Giftedness is represented by the enrichment lesson that resource room teacher gives once a week.	Resource room
F	He is the person who owns un usual aptitudes and abilities And have high performance.	Ability/Performance
F	Thinkers, innovators, creators	Creative
G	Who has hobbies or abilities in different areas such as leadership, music, sports. And this ability is not connected to high IQ	Ability/Performance
G	Those who score above 90 in school	High scores
G	Who scores above 90 in his subjects	High scores
G	Depends on the area of gift the definition varies.	Varies

Most (20) of the teachers defined giftedness in terms of high levels of ability and/or performance. Four teachers defined giftedness as “talented” and another four teachers considered giftedness meant achieving high scores. Three teachers defined giftedness in terms of creativity. Two teachers referred to the MoE definition of giftedness, two referred to the Resource Room, and one to Renzulli’s model. One considered that giftedness was “Obvious” , another that a gifted student was “superior to his peers” and one that the definition of giftedness varies depending on the area of the gift. It was evident that the teachers used no common definition of giftedness.

#### 4.2.4 Research Question 3: Questionnaire Responses

The responses to the questionnaire items to address Question 3: What programmes are offered for them? And how they are implemented? are presented in Table 4.6

**Table 4.6 Provision of Gifted Education: Questionnaire Responses**

Question	Response	Frequency	%
14- What provision is provided for gifted students in your school? (more than one option).	1 = Separate units /classes within mainstream setting	6	4.9
	2 = Mainstream class rooms	55	44.7
	3 = Separate gifted school	2	1.6
	4 = Enrichment programmes after school hours	45	36.6
	5 = Recourse room (pull out)	56	45.5
	6 = Summer camps	9	7.3
	7 = Weekends programmes	35	28.5
	8 = Other	1	0.8
15- Which gifted programmes are used in your school? (more than one option)	1 = Acceleration	0	0.0
	2 = Advance placement	0	0.0
	3 = International Baccalaureate	3	2.4
	4 = Enrichment	95	77.2
	5 = Advance curriculum	11	8.9
	6 = Curricular adaptation/modification	11	8.9
	7 = Differentiated curriculum	4	3.3
	8 = Weekend programmes	11	8.9
	9 = Field trips	27	22.0
	10 = Competitions or Olympics	66	53.7
	11 = Gifted club	24	19.5
	12 = Counselling services	8	6.5
	13 = Other	1	0.8

The most frequent types of provision provided for gifted students, reported by nearly a half of the teachers were the Resource Room and pull out (56, 45.5%) ; and mainstream class rooms (55, 44.7%). Enrichment programmes after school hours (45, 36.6%) and weekend programmes (35, 28.5%) were less frequent types of provision. The least frequent types of provision for gifted education were separate gifted schools (2, 1.6%); separate units/classes within a mainstream setting (6, 4.9%) and summer camps (9. 7.3%).

The most frequent types of gifted programmes used in the schools, reported by

over half of the teachers were enrichment (95, 77.2%) and competitions or Olympics (66, 55.3%). Field trips (27, 22.0%) and Gifted club (24, 19.5%) were reported by about one fifth of the teachers. Less than one tenth of the teachers reported the use of advance curriculum and/or curriculum adaptation/modification (11, 8.9%); weekend programmes (11, 8.9%) and/or counselling services (8, 6.5%). The least frequent gifted programmes used in the schools included acceleration and advance placement (0, 0.0%); International Baccalaureate (3, 2.4%) and differentiated curriculum (4, 3.3%).

Table 4.7 summarizes the responses of the teachers to questions concerning the implementation of gifted education. Over half of the teachers (71, 57.7%) reported that a special needs or resource room teacher was responsible for gifted programmes in their schools. Subject teachers (28, 22.8%) and activity teachers (14, 11.4%) took less responsibility, whilst Principals (8, 6.5%) took the least responsibility for gifted education programmes. Most of the teachers (84, 68.3%) provided no response to the question “How many gifted students have you in the school?” possibly because the teachers were unsure, or did not know the answer. The responses of the other teachers ranged from a minimum of  $\leq 10$  gifted students per school, reported by two teachers (2, 1.6%) to a maximum of over 100 gifted students per school, reported by one teacher (1, 0.8%). The most frequent response to the question was 21 to 30 gifted students per school, reported by less than one tenth of the teachers (11, 8.9%).

Most of the teachers (84, 68.3%) provided no response to the question “What is their ratio (%) to the total number of students in the school?” possibly because the teachers were unsure, or did not know the answer. The responses of the other teachers

ranged from a minimum of  $\leq 5$  % gifted students in their schools (3, 2.4%) to a maximum of over 16-20% gifted students (3, 2.4%). The most frequent response regarding the proportion of gifted students (6-10%) in their schools came from just over one tenth of the teachers (15, 12.2%).

**Table 4.7 Implementation of Gifted Education: Questionnaire Responses**

Question	Response	Frequency	%
16- Who is responsible of gifted programmes in your school?	1- Subject teacher	28	22.8
	2- Special needs or resource room teacher	71	57.7
	3- Principal	8	6.5
	4- Activity teacher	14	11.4
	5- Other	14	11.4
17- Is there a financial fund for gifted programmes?	0 = No	41	33.3
	1 = Yes	57	46.3
	No response	25	20.3
18- Do you have internal evaluation for your gifted programme	0 = No	35	28.5
	1 = Yes	70	56.9
	No response	18	14.6
19- How often?	1	17	13.8
	2	15	12.2
	3	14	11.4
	4	2	1.6
	No response	75	61.0
20.1 How many gifted students have you in the school?	1 $\leq$ 10	2	1.6
	2 = 11-20	8	6.5
	3 = 21-30	11	8.9
	4 = 31-40	3	2.4
	5 = 41-50	2	1.6
	6 = 51-70	2	1.6
	7 = 61-70	8	6.5
	8 = 71-80	1	0.8
	9 = 81-90	0	0.0
	10 = 91-100	1	0.8
	11 > 100	1	0.8
No response	84	68.3	

20.2 What is their ratio (%) to the total number of students in the school?	1 ≤ 5%	3	2.4
	2 = 6-10%	15	12.2
	3 = 11-15%	10	8.1
	4 = 16-20%	3	2.4
	No response	92	74.8

#### 4.2.5 Research Question 4: Questionnaire Responses

The last questionnaire item 28 asked “What are your recommendations to improve provision of gifted education?” A content analysis of 75 responses was conducted to provide insights to address Question 4: What is needed in order to improve the provision of gifted education in order to contribute to the development of the UAE? A summary of the content analysis are presented in Table 4.8.

**Table 4.8 Recommendations: Summary of Questionnaire Responses**

Theme	Frequency
Teacher training	21
Curricula and programmes	20
Gifted education centres	11
Specialist teachers	9
Budget	7
Consultants	4
Parental involvement	3

The most frequently endorsed themes were (a) to provide more teacher training for gifted education, and (b) to develop new curricula and programmes for gifted education. The creation of gifted education centres and increasing the budget for gifted education were also frequently recommended. The least frequent recommendations were to provide more consultants to advise schools about gifted education, and to increase parental involvement in gifted education.

### 4.3 Interviews with Teachers

The interviewed respondent coded with the pseudonym DA was the Head of Gifted Section at Special Education Department in the MoE. Before that she worked in one of the Educational Zones in the UAE. She holds a Master's degree in gifted education and has more than 10 years experience in the field of education. The eight interviewed respondents coded with the pseudonyms TA, TB, TC, TD, TE, TF, and TH were teachers at the three participating schools coded by A, B, and C. The characteristics of the eight teachers are summarized in Table 4.9. All of the teachers taught in Grade 4 and 5 and had many years (8 to 16) of experience teaching mathematics, art, languages, or Islamic studies.

**Table 4.9 Characteristics of Interviewed School Teachers**

Pseudonym	Location	Subject	Grade	Years of Experience
TA	School A	Mathematics	4	12
TB	School A	Mathematics	5	8
TC	School A	Art	4 and 5	14
TD	School A	Arabic	5	16
TE	School B	Mathematics	4	8
TF	School B	English	5	13
TG	School C	Islamic Studies	5	19
TH	School C	English	4	11

The interviewed parents were coded with the pseudonym PA and PB. PA was a mother of two gifted girls enrolled at school B, one at grade three and the other is at grade five. The other interviewed parent coded with pseudonym PB was a mother of a gifted girl enrolled in School C in grade five. The interview questions were coded as defined in Table 4.10, where D = decision maker at MoD; T = teacher; and P =

parent.

**Table 4.10 Coding of Interview Questions for Content Analysis**

Question No.	Question
D01	What were the Ministry's programmes for gifted education (before 2008)?
D02	What are the Ministry's plans regarding educating gifted students (2008 onwards)?
D03	What are the Ministry's policies regarding gifted education?
D04	What are the Giftedness Sections' responsibilities?
D05	What is the Ministry's current plan for gifted education?
D06	What are the General Rules for Special Education programmes?
D07	What is the initiative of developing the skills of gifted and talented students?
D08	What is the practical manual for gifted programmes?
D10	What are the Ministry's programmes and plans for gifted and talented students in 2014 and 2015?
D11	Do you evaluate gifted programmes?
D12	What is the theoretical background of the gifted programmes and the philosophy behind those programmes
D13	What is the definition of gifted or talented?
D14	What is the identification plan and procedures the Ministry adopt?
D15	What are the curriculum and teaching instructions the Ministry use?
D16	What are the obstacles the Ministry face in gifted education?
D17	What are the development projects for the Ministry in gifted education?
T01	How do you identify a gifted student in your subject?
T02	Is there an official procedure in your school for identifying the gifted students?
T03	What is the definition of giftedness?

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T04	What are the gifted programmes offered by you for gifted students in your class?
T05	Is there a law or policy for gifted students?
T06	What are the Ministry of Education's programmes for the gifted learners?
T07	Is there an allocated budget for gifted programmes in your school?
T08	Is there a resource room in your school for the gifted learners?
T09	What do you prefer for gifted learners; a special classrooms or regular classrooms?
T10	Is there a plan for gifted learners in your school?
T11	Is there a training offered for you on gifted education?
T12	What are the barriers for gifted education improvement?
T13	Any additions or suggestions for improving gifted provision?
P01	How did you identify that your child is gifted?
P02	What is the school's role in nurturing your child's gifts?
P03	What is your role in nurturing your child's gifts?
P04	Is there a law for gifted education?
P05	Is what's offered now for your gifted child is enough?

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The content analysis incorporated bracketing, which meant that the researcher took a neutral stance to interpret the interview responses, excluding her own views about gifted education, to avoid bias caused by her own personal background and prejudices (Denzin & Lincoln, 2008). The content analysis emphasized the experiences and perceptions of each individual participant. Therefore, in this section, the responses of the teachers are reported verbatim, to ensure that their actual voices are heard, unfiltered by the personal views of the researcher, as recommended by Fraenkel and Wallen (2010).

The responses of the participants to the interview questions were copied directly from the interview transcripts into an Excel spreadsheet. The verbatim transcription of the interview responses was first layed out, or horizontalized, assuming that all the data had equal value. After conducting a critical review, and excluding irrelevant statements, the thematic patterns in the data became evident. The final results of the content analysis emerged in the form of the clustering of the responses into four primary themes, each of which contained two or three subthemes, as outlined in Table 4.11

**Table 4.11 Themes and Sub-themes Emerging from Interview Responses**

Primary Theme	Secondary Themes
1. Policies and Plans	Policy Plan
2. Definition and Identification	Definition Identification
3. Programmes and Implementation	Programmes Differentiation Resources
4. Needs	Barriers Suggestions Training

### **4.3.1 Policies and Plans**

Table 4.12 presents the results of the content analysis of the interview responses classified in the primary theme: Policies and Plans. The first column is the code for the respondent. The second column is the code for the question. The third column is the verbatim statement of the interviewee. The fourth column shows how the primary theme was divided into two sub-themes: Policy and Plan. These themes

provided insights to address Question 1: What policies are in place to support the provision of service offered for gifted learners in order to contribute to the country's development?

**Table 4.12 Content Analysis of Interviews. Primary Theme: Policies and Plans**

DA	D12	'Education for All' is the philosophy behind gifted education in the Ministry. School for all is a UNESCO initiative, which calls for equity in educational opportunities in school. One important objective's in the Ministry's Strategic Plan 2010-2020 is providing equal educational opportunities for all learners.	Policy
DA	D15	We encourage differentiation in curriculum and we train teachers on creating enrichment unites in their subjects. In addition the Ministry promoted enrichment hour within the school schedule. Enrichment hour is a period allocated for enrichment activates once a week for gifted students. In addition, teachers use enrichment inside their class by modifying the curriculum to suit the gifted students' needs. Grouping also is encouraged for gifted students as one strategy that can benefit the gifted student.	Policy
DA	D03	The Ministry launched a policy guideline entitled "The General Rules for the Provision of Special Education Programs and Services ". This guideline regulates, defines and identifies all special needs including gifted learners. The Ministry's philosophy is inclusive. 'School for all' is an initiative translates Ministry's philosophy by making each school inclusive for learning with special needs whether they are with disability or gifted. All children learn together and segregation is not accepted in the Ministry.	Policy
DA	D04	The Gifted Section is responsible for creating gifted programs for gifted learners that includes identification programs along with provision. Also training teachers on gifted programs. In addition it is responsible for creating plans for gifted programs in the UAE, supervise its implementation and evaluate it.	Policy
DA	D07	It is an initiative created to serve the gifted students in schools as a response of the Ministry's strategic goal of providing equal educational opportunities for all. It consist of different activities such as; awareness champagnes, equipping resource rooms in schools, creating enrichment curriculum, training and implementing 'School wide Enrichment Model (SEM)'.	Policy

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DA	D08	It's a guidebook explaining the initiative of developing the skills of gifted and talented students, published at 2010. In it you will find the new criteria for special education with regards to gifted education as well as the official identification stages and steps. It also have an explanation about SEM model. It's step-by-step manual where schools and teachers can easily follow to implement the gifted initiative. In addition, it provides suitable tools for each step of the identification stages.	Policy
PA	P04	No. I didn't hear of that.	Policy
PB	P04	No. I know the country is concerned about education of all children but I don't know much about the gifted programs part.	Policy
TA	T5	Yes. I have read it. The Ministry sends decrees regarding gifted education and we get it. Additionally, resource room teacher have all the official documents and we can refer to her anytime.	Policy
TB	T5	I don't know actually.	Policy
TC	T5	Might be. I don't now for sure.	Policy
TD	T5	Yes there is. I read in the news the Ministry issued some rules. Also I follow the Ministry at the social media. I read it there too.	Policy
TE	T5	No.	Policy
TF	T5	No.	Policy
TG	T5	No.	Policy
TH	T5	There are some guides from the government towards caring for gifted learners. I heard it in the news.	Policy
DA	D06	A guideline book to regulate all services and programs offered by the Ministry of Education for learners with special needs regardless of their high abilities or disabilities. In addition to definition and identification. Besides illustrating the history of gifted education in the country.	Policy
TA	T10	Yes, with the principal and the resource room teacher knows about it.	Plan
TB	T10	Yes. It is embedded in the strategic plan of the school. And every teacher have to put an objective in her operational plan regarding what she will do for gifted students.	Plan
TC	T10	I think there is. I have for my subject.	Plan
TD	T10	Yes there is.	Plan
TE	T10	Yes. It's with the administration.	Plan
TF	T10	Yes. Its with the special resource room teacher.	Plan

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TG	T10	Yes	Plan
TH	T10	Yes	Plan

The interviewees were asked whether there is a gifted policy in the country. The decision maker confirmed that the MoE created appropriate policies to serve the gifted students better. She said that “the Ministry launched a policy guideline in 2010 entitled the General Rules for the Provision of Special Education Programs and Services” This guideline regulates, defines and identifies all special needs including gifted learners”. The decision maker confirmed that the MoE created a “guideline book to regulate all services and programs offered by the Ministry of Education for learners with special needs regardless of their high abilities or disabilities”.

The two parents who were interviewed stated that there was no policy to regulate the practice of gifted education. Three of the teachers affirmed that there was a clear policy regulating gifted education. One interviewee said, “Yes, I have read it. The Ministry sends decrees regarding gifted education”. Another teacher said “yes there is, I read in the news the Ministry issued some rules, also I follow the Ministry’s social media and I read it there too”. On the other hand, four of the teachers voiced another opinion, stating that there was no policy regarding gifted education, or else they did not know if there was a policy.

The teachers were asked if there was a plan for gifted learners at their school. All of the teachers knew about the existence of a strategic plan for gifted education at their school; however, not all the teachers had read the plan. They said that the plans for gifted education were kept by the principal, the special resource room teacher, or the administration.

### 4.3.2 Definition and Identification

Table 4.13 presents the results of the content analysis of the interview responses classified in the primary theme: Definition and Identification. This theme provided insights to address Question 2: How is giftedness defined in Dubai? And how are the gifted learners identified in order to be served? The primary theme was divided into two sub-themes: Definition and Identification.

**Table 4.13 Content Analysis of Interviews. Primary Theme: Definition and Identification**

DA	D13	Gifted students are those who are having an outstanding ability in one or more areas of intelligence, or creativity, or academic achievement or special talents such as poetry, drawing, handicrafts, sports, drama, or leadership.	Definition
TA	T03	Gifted students are those who answer un-expected answers when given a question in the subject. He also create a different way of answering a question rather than what he learnt from the teacher or the book.	Definition
TB	T03	Gifted students are those who answer quicker than other and show excellence in their answers and homework. They score high in the class. They are among the highest 3 in the class.	Definition
TC	T03	Drawing beautifully and using colours perfectly. Also they are good in handcraft. They can see the beauty in everything. They are artists.	Definition
TD	T03	High ability in school subjects or clever student with high IQ.	Definition
TE	T03	The gifted student is who achieve more than expected from the age group. He is good in his academic achievements and in his hobbies.	Definition
TF	T03	Its related to the achievements of the student. High achievements in particular either in the Academic subjects or high IQ or distinguished creativity or problem solving.	Definition
TG	T03	A special school for gifted students, which offers all gifted programs chances for the gifted student. Also parents should get training with subjects related to gifted education.	Definition
TH	T03	Giftedness means high abilities in skills or talents.	Definition

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DA	D14	All learners in the school get chance to be discovered. The Ministry created a team at the educational zone level and another team in each school which responsibility is make sure gifted programs are implemented including identification practice. All learners who met the Ministry's criteria can be considered as gifted plus teachers or parents' nominations are required. There is an identification procedures identified in the guideline of General Rules of Special Education. Also the book provide suitable identification tools.	Identification
DA	D17	The latest project is the initiative entitled "Setting of full system to detect talented students to develop them" where the Ministry is working towards creating standardize identification tool for gifted learners.	Identification
PA	P01	The school told me. My girls are excellent in their studies. They top their class. One of my girls love gymnasium and she plays sports. I don't know what is her talent.	Identification
PB	P01	My daughter is creative since young age. Even before she was eligible to enrol in kindergarten. She was good in computer and was using it since young age. She is also good in handcraft.	Identification
PA	P02	The school's role was identifying that my girls are gifted. We used to stay outside the UAE for several years. My girls started their schooling there. And when we came back they were enrolled to this school as it is close to my home. The school also encouraged my daughters to enrol in national competitions.	Identification
TA	T01	By observation of students and it shows if a student is gifted in math when he answer the question fast and inside his mind without using paper and pen. his answers are creative sometimes and accurate most of the time.	Identification
TB	T01	I notice when a student is different, for example if a question needs 5 minutes to be answered. That student takes 2, he is fast and accurate too. He is quite in the class, always lesson to what I say. Gifted students are distinguished.	Identification
TC	T01	By observing their drawings and colouring. Their creative work stands between other students. They get high sense of beauty in their work.	Identification
TD	T01	During the class I notice them. For example, when they read or act a peace of work they are studying. Also it shows in their speech skills. Everything they do point out that this is a gifted student. You cannot just ignore it. You would feel amazed how good those students are.	Identification

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TE	T01	I know if this student is gifted from the daily lessons and the interactions in the lesson by my questions and students answers. Also the resource room teacher implements different tests and she tell us if any student has scored high in them and if the student is gifted.	Identification
TF	T01	They can be recognized by more than one strategy. First of all Renzulli's Model help in discovering the gifted students when applied to the school. Also it shows in the gifted students attitude and accomplishment. For example, when the student plays an act or solves a problem, he differs from others.	Identification
TG	T01	Depends on the ability tests at the beginning of the year. This tests classify students depends on their abilities. Who scores high can be considered gifted.	Identification
TH	T01	It takes time before I recognize who is gifted in a new classroom. Their work shows their abilities. In addition, their grades on the daily quizzes and their participation in the classroom. Once I recognize their ability level I divide them into group. Group yellow is the group who needs support. Group blue is the average group and the green group is the gifted group.	Identification
TA	T02	Yes there is, you can have it from the resource room teacher. Additionally, Hamdan Award has good procedure of identifying the gifted students. We have one teacher who is graduated from Gifted Diploma course that Hamdan Award offers. She is applying what she learnt in the school.	Identification
TB	T02	Yes you can take a copy from the resource room teacher. She has everything related about the gifted education. We call her the expert in Giftedness. We usually keep documents with her and when we need anything we take it from her.	Identification
TC	T02	There must be but I don't have them, maybe if you ask the administration they can help you.	Identification
TD	T02	Yes there is an official procedure for identifying gifted students. They are usually with resource room teacher. She is the expert. However, I rely more on my nominations and decision about a student is gifted or not. I base that on my long experience in teaching.	Identification
TE	T02	Yes, the resource room teacher does some tests and also a set of courses is given in the school for teachers to be able to identify the gifted students. For example, how to implement the nominations form.	Identification
TF	T02	Yes. Its with the resource room teacher.	Identification
TG	T02	Yes. There is a process which identification of gifted students goes through. It starts with teachers' nominations and ends with IQ test.	Identification

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TH	T02	Yes. At the beginning of the year the recourse room teacher identifies the gifted students by getting teachers nominations plus apply IQ test and creativity test.	Identification
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The interviewees defined giftedness differently. The decision maker at the MoD defined a gifted student using the Ministry’s guideline for services and provision of gifted education. She said “Gifted students are those who are having an outstanding ability in one or more areas of intelligence, or creativity, or academic achievement or special talents such as poetry, drawing, handicrafts, sports, drama, or leadership”. The teachers’ responses varied. Some suggested giftedness depended on speed. They claimed that a gifted student is one who finishes his or her tasks quicker and who answers questions fast. Others defined giftedness in terms of being different, suggesting that a gifted student tends to answer questions differently and find different solutions to problems. One teacher defined giftedness in relation to creativity, e.g., “creative work stands among others” whereas others defined giftedness in terms of their scores in tests. They claimed that gifted learners are those who score high in the identification tests that resource room teacher apply. They also defined giftedness with regards to mental ability tests. They claimed that gifted students have a high IQ, higher academic achievement and act higher than their age group. The two parents also believed that giftedness meant scoring high in school tests. One teacher stated that she identified gifted learners by the use of SEM model. In addition she believed giftedness can be seen in “attitude and accomplishment”. Gifted learners are good in problem solving according to one teacher. Another teacher summarized giftedness as “high abilities in skills or talents”.

The evidence from the interview responses regarding the definition of giftedness suggests that that, although there is an official definition for giftedness adopted by the MoE and published for schools, most of the teachers and the parents define giftedness only partially and differently to the MoE.

The interviewees also expressed their opinion about identification of gifted learners differently. The decision maker at the MoE said that the identification process was defined in The General Rule for Special Education Programs and Services. This book describes the steps of identification and criteria of giftedness and school personal can refer to this book when identifying who is gifted. The book emphasizes that all gifted learners in the school should get chance to be discovered. Also the Ministry published a guideline book entitled The Practical Manual for Gifted Programs in addition to the official procedure. The guideline also provide a suitable tool for each step of the identification process. Furthermore the latest project is the initiative entitled “Setting of full system to detect talented students to develop them” where the Ministry is working towards creating standardize identification tool for gifted learners.

The majority of the teachers reported that, although there were official identification processes and procedures, they tended to use their own nominations. One teacher said the identification procedure “starts with teacher nominations and ends with IQ test”. Some of the teachers did not have a copy of the guidelines published by the MoD but claimed that it could be found with the resource room teacher. Another teacher said that “Hamdan Award have great identification process”.

In contrast the responses of the two parents showed that they did not know how identification procedures were applied in the schools.

The evidence based on the interview responses indicates there is an official procedure for identifying gifted students. In addition, there are suitable tools for each of the identification stages. However, the teachers tended to rely on their own nominations to determine if a student is gifted, and they base that on their own teaching experience. In conclusion, although the MoD has provided schools with official guidelines related to the definition and identification of giftedness, there appears to be a problem because the guidelines are not fully implemented in practice.

### 4.3.3 Programmes and Implementation

Table 4.14 presents the results of the content analysis of the interview responses classified in the primary theme: Programmes and Implementation. The primary theme was classified into three sub-themes: Programmes, Differentiation, and Resources. These themes provided insights to address Question 3: What programmes are offered for them? And how they are implemented?

**Table 4.14 Content Analysis of Interviews. Primary Theme: Programmes and Implementation**

DA	D01	The Ministry of Education had several un-regulated efforts with regards to gifted programmes prior 2008 which were scattered in different schools.	Programmes
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DA	D10	As a response of the latest Federal Cabinet’s Ministerial Retreat a set of initiatives were created to translate the Ministerial Retreat to practice. The one related to gifted education is: “Setting of full system to detect talented students to develop them”. This initiative aims at creating a sound system for identifying gifted students and meets their needs by creating suitable educational programs in order for them to meet their needs and develop their gift.	Programmes
DA	D02	The Ministry has created a strategic and an operational plan for gifted programs in school. This plan includes enrichment programs, teacher training, equipping schools with resources, giftedness awareness campaigns, identification programs, and enriching the library of schools with gifted books.	Programmes
DA	D05	School for all’ In addition to ‘Development of Gifted and Talented Students’ Skills’. Both are new initiatives, which were implemented to serve the gifted students. Also a special needs’ team was created in each school and in each educational zone to make sure that students with special needs are properly served. Those programs were created in response of UNESCO’s initiative (Education for All). Which helps the Ministry Strategic Objective: “equity in educational opportunities”.	Programmes
PB	P02	Providing activities suitable for the nature of the gift of the children. Encourage it and nature it.	Programmes
TA	T04	In Math we offer competitions from outside the curriculum. Most of the time those competitions are above their grade level. We offer them different work sheets on the lesson, which is high in difficulty to challenge their ability and encourage them to push up their potentials.	Programmes
TB	T04	I offer them different worksheet at the end of the lesson. Gifted student need difficult questions so he may not finish quickly.	Programmes
TC	T04	I enrol them in national competition and encourage them to take high ranks in it.	Programmes
TD	T04	I try to create extra homework for them so they can test their abilities. Sometimes I see what is their gift and work on them to improve it. For example if they are good in speech I give them instructions on how to improve or suggest them to watch videos for famous people to learn from them. I offer them extra activity worksheet, which makes them use their thinking skills.	Programmes
TG	T04	Enrichment worksheets.	Programmes
TH	T04	In the enrichment lesson, which is once a year, I offer few activities which is challenging. For example, creative games like ‘kids whisper’, ‘reading challenge’ and ‘spelling bee’. I enroll the gifted students in international competition like spelling competition	Programmes

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TA	T06	The Resource Room teacher knows better. She was trained from the Ministry. She have all the documents if you asking about them.	Programmes
TB	T06	That can be found with the resource room teacher. She is more capable to answer this question for you. I heard all official instructions from the Ministry is with her. As you know the Ministry deal with resource room teachers more than other when it is a program for gifted or disabled students.	Programmes
TC	T06	I don't know. But I think it's related to training courses on different subject, identification tools and strategic plan for gifted education. That's what I heard the resource room teacher advocate.	Programmes
TD	T06	Enrichment activities, summer camps and international competitions. Also Hamdan Award offers a diploma in gifted education. I try myself to enroll in it next year. They also offer enrichment programs and specialized programs. Also there is 'Mohammed bin Rashid program for E learning'. They are working on providing tablet for every student. We are in a smart country.	Programmes
TE	T06	The Ministry offers national and international competitions for gifted students. Also the Ministry offers enrichment models and identification programs.	Programmes
TF	T06	They offer high thinking skills activities for the gifted students. It helps them to solve problems creatively. Those programs help to connect the students to the reality world. What they learn in school can apply in their life.	Programmes
TG	T06	Competitions and Olympiads enrolment if the student is gifted and nominated by the school	Programmes
TH	T06	There are several programs such as International competitions, enrichment hour. School for all project.	Programmes
TE	T04	I provide the lesson for them in a different way. I offer electronic games for the whole class related to the lesson. Also I offer games during the lesson, which help students to understand the lesson better. Although my activities are for the whole class, the gifted students work outstand during working on those activities.	Programmes
TF	T04	I offer them an activity called 'joy of learning' which is fun for the students and it shows me who is gifted in my subject. Additionally I defer in the worksheet and create them differently for every level. In case a student for example is gifted in speech I refer her to the media centre so they can benefit from her gift in the media activities.	Programmes

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TA	T09	Each one has its negative and positive side. For example a gifted child in a regular classroom may benefit other students, but could kill his gift if he stayed in a regular classroom with no help.	Differentiation
TB	T09	It's good when the gifted child is in a regular classroom. All students benefit from gifted student in the class, and he help others when she finish early.	Differentiation
TC	T09	Special classes of course, see in Art for example not all students are gifted. It is of beneficial if those gifted students are taught into groups or special classes. Because students who are not gifted will not benefit when this gifted student is addressed.	Differentiation
TD	T09	I think both. For example the student can take all his lessons in the regular classroom but can take extra curriculum activities in a special class or resource room. Or can concentrate on the students' gifts in this special recourse room.	Differentiation
TE	T09	Special classes will benefit the gifted students more, because their mind's age is bigger than their colleagues. In the special classroom they will be taken care of more than a regular classroom. They will benefit from their time instead of feeling bored in the regular classroom. In the special classroom they will learn with their peers and they will be getting extra-enriched curriculum not the general one.	Differentiation
TF	T09	Special classes are better. In this way they can get better served. They will not be bored if the lesson is too easy for them.	Differentiation
TG	T09	I prefer a regular classroom where all students should be. A segregation system has much disadvantage more than inclusive setting.	Differentiation
TH	T09	Regular classroom for student learn together, live together. They should be in their normal school and regular classroom with their peers.	Differentiation
TA	T07	Yes, you can ask the principal. I don't know how much exactly neither I benefit from it in my subject.	Resources
TB	T07	Maybe – I don't know actually.	Resources
TC	T07	I don't know for sure. But I think if we ask we may get it if the project is useful for the school.	Resources
TD	T07	Yes. Its part of the school's budget.	Resources
TE	T07	Yes. The gifted budget is embedded within the school budget.	Resources
TF	T07	No.	Resources
TG	T07	Yes.	Resources
TH	T07	Yes.	Resources

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TA	T08	Yes.	Resources
TB	T08	Yes. She is responsible for every gifted program. She supervises it in school and wright reports.	Resources
TC	T08	Yes.	Resources
TD	T08	Yes.	Resources
TE	T08	Yes.	Resources
TF	T08	Yes. The resource room offers Renzulli’s Model for gifted programs for whole school.	Resources
TG	T08	Yes. The teacher is using pull out model. Where she take the gifted students once a week for enrichment classes or multiple intelligences classes.	Resources

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The interviewees’ responses regarding the availability of gifted programmes showed that there were different types of programmes implemented at the three schools. According to the decision maker at the MoE, these programmes consist of “identification programmes, enrichment programmes, teacher training programmes, equipping schools with resources, giftedness awareness programmes, publications and related books and strategic/operational plans. In addition the Ministry created several initiatives to response to meeting gifted needs in the educational system. Such initiatives consist of the following: “School for All” initiative that is created in response to the UNESCO call for equity in education for all. The second initiative is “Development of Gifted and Talented Students’ Skills”. And the last newly created initiative in response to the Federal Cabinet’s Retreat is the initiative of “setting of full system to detect talented students to develop them”.

The teachers were asked what they offered for gifted students in their subject, and what does the MoE provide for gifted learners? Most of the teachers responded “national and international competitions” and the provisions provided for gifted

learners were known by the Resource Room teacher (referring to the responsible teacher for gifted programs in the school). One of the teachers summarized all the programmes offered by the Ministry of Education as “enrichment activities, summer camps and international activities”. Another teacher said that competing in international Olympiads is one of the opportunities offered by the Ministry for gifted students. One of the teachers stated that “In Math we offer competitions from outside the curriculum”.

When teachers were asked what was offered in class for gifted learners, most of them replied “differentiation in content” and worksheets. Also some responses showed that teachers tend to refer and encourage the gifted students to enrol in competition related to their gifts’ domain. Other teachers tend to offer extra activity worksheet, which is tackling students’ thinking skills.

The teachers had contradictory views regarding differentiation. Four teachers thought that gifted students should be taught in regular education classrooms, exemplified by “I prefer a regular classroom where all students should be. A segregation system has much disadvantage more than inclusive setting”; “Regular classroom for student learn together, live together. They should be in their normal school and regular classroom with their peers”. The other teachers preferred special classes for gifted students. For example, one teacher stated “Special classes will benefit the gifted students more, because their mind’s age is bigger than their colleagues. In the special classroom they will be taken care of more than a regular classroom. They will benefit from their time instead of feeling bored in the regular

classroom. In the special classroom they will learn with their peers and they will be getting extra-enriched curriculum not the general one”.

The responses of the teacher regarding the resources available to implement gifted education programmes were also very variable. Three of them did not know if the resources for gifted education were embedded in the school budget. Two said that it was part of the school budget, and the others said it was not. All of the teachers confirmed that the resources for gifted education were the responsibility of the Resource Room teacher. One stated that the resource room offers Renzulli’s Model for gifted programmes. Another stated that the resource room teacher takes the gifted students once a week for enrichment classes or multiple intelligences classes.

In conclusion, the evidence from the responses to the interview questions suggested that the MoE provided various gifted programmes, however, the majority of the teachers tended to rely on enrolling students in national and international competitions. The teachers’ opinions were divided regarding the benefits of differentiation, and whether or not there was an allocated budget for gifted programmes in their schools. All schools had implemented a resource room in their schools for the gifted learners

#### **4.3.4 Needs**

Table 4.15 presents the results of the content analysis of the interview responses classified in the primary theme: Needs. This theme provided insights to address Question 4. What is needed in order to improve the provision of gifted

education in order to contribute to the development of the UAE? The findings are presented with regards to interviewees' opinions

**Table 4.15 Content Analysis of Interviews. Primary Theme: Needs**

DA	D16	First of all, Gifted Education as a specialization is limited in the country. In addition, human resource in the field is rare. We suffer from few gifted experts in the Ministry at the current time. Another obstacle is the budget that is very limited while the programs' implementation needs larger budget. Identification tools are another obstacle, as the country needs standardized test on the UAE to identify gifted students.	Barriers
TA	T12	Budget, experience, lack of training.	Barriers
TB	T12	Lack of proper identification tools and no enough training for teachers.	Barriers
TC	T12	Bad management could be big barrier if does not believe in the issue of gifted education.	Barriers
TD	T12	People's attitude sometimes prevents development. Negative thoughts as well. For example, offering gifted programs for gifted student needs extra time from the teacher. If the teacher stays negative that I have lots of things to do and this program is taking my remaining time, she will never succeed neither the program will. She should be positive. It's all in the favour of our country and our gifted students.	Barriers
TE	T12	Lack of teachers training in the field of gifted education.	Barriers
TF	T12	Lack of budget. Gifted training and programs are expensive and they need sufficient budget to run the program	Barriers
TG	T12	I don't know	Barriers
TH	T12	Excluding parents from planning their gifted students' education.	Barriers
DA	D11	Yes, the Ministry evaluated all its initiatives including those ones created for gifted learners. In addition we are aiming at including its evaluation in the Ministry's school evaluation system.	Suggestions
PB	P05	No. we need more than what is offered now for the gifted students. For example, there is a big need for opening gifted centre for gifted students. Where they can spend their time after school or at the weekends. Example is what Hamdan Award offering.	Suggestions

PA	P07	If the Ministry provide training for parents on how to deal with gifted children and how to discover them would be very beneficial for both the gifted children and the parents themselves.	Suggestions
PB	P07	Provide a special centre for gifted students. And provide schools with suitable and various gifted programs. Training the teacher is also important and guiding parents.	Suggestions
TA	T13	The school will benefit if all the teachers are trained on gifted education instead of only training the resource room teacher.	Suggestions
TB	T13	I suggest that the Ministry open gifted centres so students can benefit from its services after school or in vacations if they don't travel.	Suggestions
TC	T13	To keep one's mind open and accept the change.	Suggestions
TD	T13	The country is doing her best in education. They have good plans and high targets. Teachers need to give their best efforts to achieve those targets. If there is awareness champagne about gifted education that may improve people's attitude.	Suggestions
TE	T13	Encourage the gifted students in order to make them meet their individual need. Also provide them with challenging programs, which challenge their minds.	Suggestions
TF	T13	A special school for gifted students, which offers all gifted programmes and chances for the gifted student. Also parents should get training with subjects related to gifted education.	Suggestions
TG	T13	To provide more training courses for teachers based on best practice in gifted education.	Suggestions
TH	T13	To designate a national day for giftedness where all schools celebrates that day and show off the different gifts in an educational exhibition. Incentives are also required to encourage the gifted child. Parents also need education and encouragement to support their gifted children.	Suggestions
DA	D9	Yes, the Ministry is training teachers and school staff on different aspects of gifted education such as creating enrichment curriculum, training on SEM model, creative thinking, problem solving, self-concept, future dialogs, scamper and multiple intelligences. We train around 200 teachers every year where we target 4 teachers from each school, which include subject teachers and administration personnel. In addition, we collaborate with Hamdan Award in the program their offer for teachers, which is diploma in gifted education. 100 teachers are now graduate from the diploma.	Training
TA	T11	Yes, by Hamdan Award. It is a 75 training hours.	Training
TB	T11	Not any I know of.	Training

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TC	T11	Maybe. As I'm an Art teacher, usually I'm not included in such training if exist.	Training
TD	T11	Yes. The recourse room teacher offers some. While Hamdan Award offer other course. I have benefited from the schools internal training	Training
TE	T11	Yes. But I have never been invited to them. It's mostly for the resource room teacher. I have attended several lectures but not the real training.	Training
TF	T11	Yes. The one I attended was organized by the Ministry in 2005	Training
TG	T11	Yes	Training
TH	T11	Yes. Lots of training is happening at school. For example, training is on how to involve students in school project.	Training

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The interviewees' responses regarding barriers to the development of gifted provisions showed that the majority thought that the lack of training in the field of gifted educations was a major barrier. According to the decision maker at the MoE, however stated that "the Ministry is training teachers and school staff on different aspects of gifted education such as creating enrichment curriculum, training on SEM model, creative thinking, problem solving, self-concept, future dialogs, scamper and multiple intelligences. We train around 200 teachers every year where we target 4 teachers from each school, which include subject teachers and administration personnel. In addition, we collaborate with Hamdan Award in the program their offer for teachers, which is diploma in gifted education. 100 teachers are now graduate from the diploma". Nevertheless, three of the teachers reported that they had not received any training, whereas the others had various types of training including "by Hamdan Award. It is a 75 training hours"; "The recourse room teacher offers some"; and "The one I attended was organized by the Ministry in 2005".

Some interviewees suggested that the lack of experts in the field was a barrier for improving the gifted provision, whilst others believed that a lack of proper identification tools was preventing the provision from developing. Bad management of gifted programs was seen by one teacher to be a barrier to enhancing the quality of provided gifted programs.

The interviewees' suggestions to develop the gifted provision emphasized the view that that training more teachers will benefit the provision of gifted education programmes in schools. The most frequent response was to open a specialized centre for gifted learners. In addition a suggestion was made about allocating special schools for gifted children. Another suggestion was to be open to changes, because this would benefit the provision and advancement of gifted education. Another teacher suggested designating a national day for giftedness. One teacher said that having incentives for gifted students and teachers of gifted students will improve the service provided in the field. The suggestions of the two parents included providing training and counselling services for gifted learners and implementing specialized centres and school for gifted learners.

In conclusion, the responses of the interviewees generally emphasized the need for more training of teachers and the provision of more gifted education centres and programmes for gifted learners.

#### **4.4 Focus Group**

The focus group consisted of six parents located at School A, coded by PA, PB, PC, PD, PE, and PF. The results based on the informal discussion that the

researcher had with the six parents focused are limited to those which address the four research questions.

#### 4.4.1 Policies

Table 4.16 presents the results of the content analysis of the statements of the parents at the focus group that were classified in the theme: Policies. The responses were interpreted to provide insights to address Question: 1. What policies are in place to support the provision of service offered for gifted learners in order to contribute to the country's development?

**Table 4.16 Content Analysis of Focus Group. Primary Theme: Policies**

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Not sure. Heard about it, but not seen it. Never read the documents.
Do not know. Do not recall the name of the policies, or the dates of publication.
Not sure, I have not seen a policy.
I think a policy exists, but I not have a copy of the documents. I not refer to the policies for my child's education
I am sure there is a policy but I do not have a copy.
I do not know if there are any policies and I never see them.

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The content analysis revealed that the parents were not sure about the existence of any policies to support the provision of service offered for their gifted children. Some respondents said that they heard about policies but they had never seen a copy of the documents. On the other hand, one parent that "I am sure there is a policy". None of the parents had a copy of the policies, nor did they recall the names of the policies or the dates of publication. The parents did not refer to any policies with regards to their gifted children's education.

#### 4.4.2 Definition and Identification

Table 4.17 presents the results of the content analysis of the significant statements of the parents at the focus group that were classified in the theme: Definition and Identification. The statements were interpreted to provide insights to address Question 2. How is giftedness defined in Dubai? And how are the gifted learners identified in order to be served?

**Table 4.17 Content Analysis of Focus Group. Theme: Definition and Identification**

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He has high ability at school. At the kindergarten they told me my child is gifted at math". I do not know how they identified his ability at math.

My child is different to the other children. Since my child was 2 years old, I noticed his gift.

My child used to like books and learn alphabets at 2 and a half years as well as basic numbers. I do not know how the school identified his giftedness.

She is different. She asks lots of questions and was aware of her surroundings at an early age. I am not sure what the school did to find out that she is different.

My child showed characteristics of being gifted. He leads his siblings at home. I do not know how they choose to identify his giftedness at school

He excels at all subjects at school. The technology used at school nowadays helps to increase his abilities. The school has a procedure to identify him as a gifted child, but I am not sure what they do.

He has a lot of academic ability. I do not know how they choose my child as gifted.

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The content analysis of the focus group discussion regarding the definition of giftedness indicated that parents defined giftedness differently based on their own personal experiences with their children. The majority of parents defined giftedness in terms of excelling in school subjects, but some said that giftedness was related to

being different. Another respondent said that being deferent meant asking lots of questions and being aware of the environment surrounding the child at early age. One mother said that the children's characteristics indicated her child's gifts. She gave an example saying that her child is a naturally leader who "leads his siblings at home".

The content analysis of the focus group discussion of identification of gifted students showed that parents mostly agreed that the school was the source of identification of their children's gifts and talents. One of the parents said "at the kindergarten they told me my child is gifted at math". On the contrary, other speaker said the children's gifts are identified by parents at home even before school starts. She said, "since my child was 2 years old, I noticed his gift. My child used to like books and learn alphabets at 2 and a half years as well as basic numbers". Another mother affirmed that the technology used at school nowadays increases her child's abilities. In addition, the focus group showed that the parents did not know the tools used to identify the children's giftedness at school, nor did they understand the procedures used or the justification for the choice.

It appeared from the focus group meeting with parents of gifted students that parents mostly identify giftedness based on their own experience with their children, however, the parents were not sure about what tools for identification were applied by the schools.

#### **4.4.3 Programmes and Implementation**

Table 4.18 presents the results of the content analysis of the significant statements of the parents at the focus group that were classified in the theme:

Programmes and Implementation. These statements are interpreted to address Question 3. What programs are offered for them? And how they are implemented?

**Table 4.18 Content Analysis of Focus Group. Theme: Programmes and Implementation**

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I do not know what is offered in school for my child although I was told by them that she is gifted.

The school enrolled her in an Olympiad and international competitions.

I takes my child to Hamdan Centre for giftedness during the school vacations. Gifted programmes at school are not enough.

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The content analysis the of focus group meeting with parents regarding the programmes offered to gifted students and their implementation showed that parents lacked involvement. They did not plan their children’s education in general and specifically they were not involved in gifted programme at school. One parent said “I do not know what is offered in school for my child although I was told by them that she is gifted”. One respondent said that the school enrolled her child in an Olympiad and international competitions. A third parent said that she takes her child to Hamdan Centre for giftedness during the school vacations, because gifted programmes at school are not enough.

#### **4.4.4 Needs**

Table 4.19 presents the results of the content analysis of the significant statements of the parents at the focus group that were classified in the theme: Needs. The statements are interpreted to address Question 3. What programs are offered for them? And how they are implemented

**Table 4.19 Content Analysis of Focus Group. Theme: Needs**

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We need a community centre for gifted student which provide all services related to gifted programmes

We need more training and counselling with regards to dealing with our gifted children. We also need a centre for gifted programmes.

A replication of Hamdan Centre for giftedness should be available in every neighbourhood

It is important to have an official law to regulate gifted education. This law should be published.

Parents should be more involved in the kid's educational plan. There should be a community centre for gifted students.

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The focus group meeting with parents with regards to suggestions for improvement of gifted provision indicated that that majority of parents called for establishing a community centre for gifted students which provided all services related to gifted programming. One parent said “a replication of Hamdan Centre for giftedness should be available in every neighbourhood”. Another parent said that that the parents of gifted students need training and counselling with regards to dealing with gifted children. One parent considered that it was important to have an official law regularizing gifted education and this law shall be published as well. Another parent stated that parents should be more involved in their kids' educational plan.

#### **4.4.5 Summary of Focus Group**

It appeared from the content analysis of the focus group meeting with parents of gifted children that they are aware of the needs to improve the provision of gifted

education for their children. In particular, the parents called for establishing a specialized community centre for gifted students. Although they defined giftedness according to their own experience, they recognized the importance of having specialized tools to identify gifted children. Parents believed that the schools were the main source for identifying gifted learners, however, they were not aware of the identification process. Moreover, parents understand the value of specialized gifted programmes, however, they believed that the main choice of programmes available for the children in their schools were enrolling in Olympiads and international completions.

#### **4.5 Classroom Observations**

In this section, the findings from observations in the classroom are presented to address the second part of Question 3. What programs are offered for them? And how they are implemented?

A total of five classes were visited and observed in order to find how gifted programs were implemented in the schools. The five classes were coded A, B, C, D, and E. The results of a content analysis of the observations classified what was observed into three themes: 1. Physical setting / classroom environment; 2. Content Delivery; 3. Instructional Strategies; 4. Student Involvement

##### **4.5.1 Physical setting / classroom environment**

The classroom environment and physical setting was found to be similar in all five observations. All students in the classes were seated in a group format. Each

group of students was sat around five or six tables. All the groups consisted of students with different abilities. The gifted students were mainly identified as the leaders of the group activities.

#### **4.5.2 Content Delivery**

The content of the classes involved two lessons in Mathematics, one lesson in English, one lesson in Science and one lesson in Thinking Skills. All the lessons started with a revision of the last lesson. The majority of lessons attended offered a gifted programme (e.g., enrichment, differentiation and problem solving); however, the lessons were not designed specifically for gifted learners, rather they were designed for all the students in the class.

Class A was delivered by the teacher in a regular manner. No gifted programme was offered nor were gifted students recognized. In Class B the teacher used problem solving in one of the workshops provided for students in addition to brainstorming, however it was for the whole class. In Class C the teacher used problem solving to explain the lesson and deliver the content in addition to enrichment within the curriculum. In Class D no gifted oriented programme was used. In Class E, a differentiation strategy was used for the groups according to their ability. The researcher noticed that the teacher in Class E was energized and lively in term of delivering the content of the lesson that affected the students positively.

### **4.5.3 Instructional Strategies**

The majority of the observed lessons were differentiating whether in the content or in the worksheet provided at the end of the lesson. Higher order thinking skills were targeted during delivering the content for three observation settings.

### **4.5.4 Student Involvement**

Four out of the five observed lessons involved high levels of student engagement in which the teacher's role was a facilitator rather than an instructor, and the students learning time was maximized. However, some gifted students appeared to be bored because the lesson may have been too easy for their level.

### **4.5.5 Summary of Classroom Observations**

The observed lessons were not specifically designed for gifted students. The majority of the observed lessons implemented a policy involving differentiation; however, not all students appeared to be involved.

## **4.6 Document Review**

Official documents were obtained from a decision maker in the MoE, in addition to other sources obtained online from the MoE website, and official newspapers in the country, shows progressing in the field of gifted education, and introduction of new initiatives and projects to fulfil the country's strive towards equality in education. Dubai implement all the MoE initiatives and projects as Dubai Schools follow the Dubai Education Zone, which follows, and report to the MoE. See

appendices 9/3 to 9/9 for more details about MoE plans and initiatives and statistics related to gifted education in Dubai and the UAE.

#### **4.6.1 Department of Special Abilities**

In 1992 the MoE prepared a research paper about intellectual advancement, which aimed to present suitable identification processes and programmes to nurture gifted students. Further attention was paid to gifted students in 1999/2000 with the formation of Gifted Section in the Special Abilities Department in the MoE. This section was formed in response to the new organizational structure that was announced by Decree no. 19. This section was providing awareness camps, national competitions, exhibitions and field trips. Another paper was prepared in 1999 describing ways of discovering and identifying gifted students. Which helped in regulating the identification process then.

The Department of Special Abilities organized a national conference on giftedness, which was the first in the UAE. A number of gifted education experts presented papers at the conference. The outcome was beneficial for the Department's development with regards to the best practice for the implementation of gifted education programmes. Another accomplishment of the Department was piloting acceleration as a model of gifted education for four students. The Department prepared a paper on acceleration to be presented to the Minister; however acceleration was not introduced for political and cultural considerations. The pull out service was recommended as one mode of gifted education. The pull out service is currently known as the Resource Rooms, which are the responsibilities of teachers who are

trained in special needs education. Moreover, training was provided for Resource Room teachers to equip them with necessary strategies for teaching gifted students (because their educational back ground was in teaching students with disabilities).

The Department of Special Abilities organized an annual competition for gifted student to encourage them to challenging their abilities. That was stopped by the year 2008 when education reform happened.

#### **4.6.2 School for all**

In 2008, the year witch education reform started, the MoE introduced three major initiatives with regards to gifted programmes as a result to the Country's commitment to the UNESCO's initiative entitle "Education for all". The philosophical background of the MoE's care for the gifted students was presented in strategic goal no. 5 and no. 6 in the MoE's strategic plan 2010-2020 (p.2) to promote student equality. Goal no. 5 required the government to "Install a harmonized assessment on federal level and ensure that students with special needs receive extra and individualized support to integrate them into the educational system" Goal no. 6 was to "Ensure an affordable, high-quality standard of public and private education is accessible to all students" Comprehensive initiatives were also created to translate "student equality" goals to reality and practice. The main initiative incorporated in the MoE Strategic Plan 2010 – 2020 (p.4) was "school for all" which provide the necessary opportunities for students with special needs, reflected by "improve programs for gifted students".

‘School for all’ initiative is a translation and implementation of inclusive philosophy of the UNESCO which calls for (Education for All). School for all is a strategic improvement project the Ministry adopted after its reform. This goes well with MoE Strategy 2010-2020, which calls for student-centric education that focus on improving students’ outcome by achieving ten goals. That supports “equity in educational opportunities for all students” (Ministry of Education Strategy 2010-2020). As a regulation for ‘school for all’ the Ministry of Education launched ‘The general rules for the provision of special education programs and services’ in May 2010. It is a guideline aims at regulating all services provided for students with special needs whether they are disabled or highly abled students. It consists of: a framework for inclusion, services and roles of who ever are involved in the inclusion practice and the educational consideration including the examination system for special needs students. Basically, ‘School for all’ has been initiated to transform the Federal Law no. 29/2006 on the right of people with special needs into a real practice (Ministry of Social Affairs 2006) which was later amended by law no. 14/2009 of the rights of people with disabilities. The Federal Law no.29/2006 and its amended version no. 14/2009, is a reflection of the country’s constitution draft at 1971 that was amended in 1996 with the permanent one. Articles 14 emphasises on social justice and equity for all citizens (UAE Cabinet, 2010). ‘School for all’ included the gifted education services in it as gifted students are considered students with special needs due to their needs, which have to be met. The resent statistics shows that there is 250 schools implementing the initiative ‘school for all’ in the year 2014.

‘School of all’ started with 10 schools in the year 2008 when education reform started, see appendix 9/7 for illustration of growth of schools implementing this

initiative. Appendix 9/6 shows the main jumps in the field of gifted education since the reform. It started by the 2008 as the year of launching gifted programs in the MoE and schools follow the MoE. Then in 2009 the Ministry allocated an enrichment hour in the school schedule for all students. Where students gets an enrichment activities during this hour or implement SEM model. The next section will explain more details about implementation of SEM model. Next in 2010 the MoE started in co-operation with Hamdan bin Rashid Al Maktoum Award for Distinguished Academic performance a diploma for teachers. 160 teachers graduated from the diploma programs since then. In 2012 the MoE trained 100 trainees on gifted education and in 2013 a number of evaluators were graduated to work with the MoE in evaluating gifted programs in the field. By the year 2014, the number of schools joining 'school for all' initiative increased to reach 250 schools, where above 8000 students involved and benefited from this initiative. No information could be retrieved regarding the exact number of schools implementing school for all in Dubai or students' statistics. And recently in the year 2014 the MoE is working on creating early discovery identification tool for identifying gifted students from early ages.

The 'school for all' accomplished many improvement for the field of gifted education according to appendix 9/8, which can be summarized in; (a) 59% of total number of schools has joined this initiative since its formalizing, (b) training 200 teachers every year, (c) 160 teachers graduated from the gifted education diploma and (d) creating identification tools.

Three sub initiatives were created to achieve the goal of equity in standards and opportunities. Those three initiatives were (a) the SEM model, implemented since

2008; (b) Development of gifted students' skills, implemented since 2010, and (c) Setting of full system to detect and develop gifted students, implemented since 2014; and (d) Year of Innovation, 2015: as follows:

#### **4.6.3 SEM Model**

Renzulli's School-wide Enrichment Model (SEM) was introduced in schools by the year 2008 in the UAE. Its philosophy was to provide different programmes for all students first at level 1, then at level 2 and 3. Several specialized programmes were provided for gifted students. The following steps were taken towards implementing this initiative. SEM was implemented selected schools in the UAE. Several enrichment programmes were implemented. These programmes included (a) equipping schools with resources including books, smart boards and computers; and (b) providing training for teachers in the selected schools

#### **4.6.4 Development of Gifted Students' Skills**

An expansion of gifted education programmes occurred in the year 2010 by introducing an initiative for developing gifted students' skills. This initiative came to formalize the efforts of the MoE to improve the provision and practice of gifted education. Its objective was to formalize the procedures of identification for gifted students, provide a definition of giftedness, and improve training and programming for gifted students. The following steps were taken towards implementing the initiative by promoting new criteria for gifted education: (a) gifted students were identified in selected schools in 2010; (b) gifted schools were initiated, starting with 10 schools in 2010 and reaching 50 schools in 2011; (c) the SEM model was

implemented in 150 schools in 2013; (d) after 2013 more schools were equipped with physical and technical needs (e.g., books, programs, computers, smart boards); (e) more schools were in the “gifted schools model”; (e) a manual was published entitled “Practical Manual for Developing Gifted Students Skills” which was the earliest form of policy that was later developed and published as a policy for special education provision; (f) 200 teachers and administration staff were trained annually at selected schools on different issues related to gifted education (e.g., training on the SEM model, training on INTEL, training on developing research skills, and the award of a Diploma in gifted education; and finally (g) a data base for gifted students was created, showing that the number of gifted students identified in the year 2013 was 8185.

#### **4.6.5 Setting of Full System to Detect and Develop Gifted Students**

As a result for the Ministerial Cabinet Retreat which was held in the year 2014 different sectors in the UAE system were improved. The MoE created an initiative entitled “Setting of full system to detect and develop gifted students”. This initiative aimed to expand the service provided the MoE for gifted students. All earlier initiatives in the same field continued and extra services were added. The additional services included (a) creating an identification kit for students from kindergarten until early years of elementary education; (b) including special needs criteria in the school inspection system; and (c) increasing the total number of gifted schools to 250 in the year 2014.

#### **4.6.6 Year of Innovation 2015**

The UAE government declared the year 2015 as a year of innovation. As a response of this declaration, the MoE created a set of initiatives. At the third Government Summit in the year 2015, seven initiatives were introduced to promote innovation in education at all levels. The aim of these initiatives was to position the UAE as the capital of innovation and creativity. The seven initiatives were as following: (a) the creation of Robotics Laboratories in schools using STEM (Science, Technology, Engineering and Math) skills; (b) the development of curricula related to innovation; (c) adding innovation as a criterion in the evaluation of public and private schools; (d) the establishment of a national exhibition of innovation; (e) the development of the Incubator of Innovation to provide a supportive and stimulating environment for university students; (f) the development of the Future Innovator, which is a community of specialists in computer science; and finally (g) the development of the Innovators Care Program, which consist of training camps and special counselling for talented and innovators.

#### **4.6.7. Summary of Document Review**

The document review revealed that the MoE is striving to meet the specific needs of gifted learners in the UAE. Moreover, since 2008 the MoE has officially regulated the practice of gifted education programmes and related matters by publishing policies and guidelines. Additionally, the MoE trained teachers on gifted education programs and identification of gifted students. However, those training seemed to be insouciant.

#### 4.7. Triangulation

Tables 4.20, 4.21, 4.22, and 4.23 present a summary of the main findings of this study to compare and contrast the conclusions derived from the questionnaire, interviews, focus group, classroom observations, and document review. Table 4.20 summarizes the conclusions based on the five methods relating to Question 1: What policies are in place to support the provision of service offered for gifted learners in order to contribute to the country's development?

**Table 4.20 Triangulation of Conclusions to Address Question 1**

Method	Conclusion
Questionnaire	Most of their schools had strategic gifted education plans. Over half of the teachers believed that there is a national policy for gifted education in Dubai. Over three quarters believed that the national educational policy has parts related to gifted education.
Interviews	The decision maker confirmed that the MoE created appropriate policies to better serve gifted students in the UAE. The two parents stated, however, that they did not know that there was a policy to regulate the practice of gifted education. All of the teachers knew about the existence of a strategic plan for gifted education at their school; however, not all the teachers had read the plan.
Focus group	The parents did not refer to any official policies with regards to their gifted children's' education.
Classroom observation	The majority of the observed lessons implemented a policy involving differentiation; however, not all students appeared to be involved.
Document review	Since 2008, the MoE has regulated the practice of gifted programmes and related matters by publishing numerous official policies and guidelines.

The triangulation of the conclusions in Table 4.20 reveals discrepancies between the existence of the official policies prescribed by the MoE for the implementation of gifted education in the UAE, and the perceptions of the parents,

and some of the teachers regarding the existence of these policies. The evidence based on the five methods of data collection and analysis indicated that not all of the parents of gifted children and teachers involved in gifted education had an adequate knowledge of these policies. The implications are that there is still room for improvement to ensure that school teachers and parents of gifted children in the UAE become more aware of the policies prescribed by the MoE and how these policies should be applied in schools.

Table 4.21 summarizes the conclusions based on the five methods relating to Question 2: How is giftedness defined? And how are the gifted learners identified in order to be served?

**Table 4.21 Triangulation of Conclusions to Address Question 2**

Method	Conclusion
Questionnaire	Over half of the teachers agreed that there was a specific definition of gifted learners within their school. Over two thirds believed that the needs of gifted learners were identified in the same ways as the special educational needs of other pupils. Nearly three quarters of the teachers reported that they had specific screening and identifying procedures for identifying gifted students in their schools. The most frequent ways in which gifted students were identified were teacher’s nominations and achievements test. Most of the teachers defined giftedness in terms of high levels of academic ability and/or performance. Only two teachers referred to the MoE definition of giftedness,
Interviews	The decision maker at the MoD defined a gifted student using the Ministry’s guideline for services and provision of gifted education. Although some of the participants knew about the official definition for giftedness adopted by the MoE and published for schools, most of the teachers and parents defined giftedness only partially and differently to the MoE. Although the MoD has also provided schools with official guidelines related to the identification of gifted students, there appears to be a problem because the guidelines are not fully implemented in practice. The teachers tended to rely on their own nominations to determine if a student is gifted

Focus group	The parents defined giftedness differently based on their own experiences with their children. The parents mostly agreed that the school was the source of identification of their children's gifts and talents; however, however, the parents were not sure about what tools for identification were used by the schools.
Classroom observation	The gifted students were mainly identified by the teachers as the leaders of group activities.
Document review	In 2010, the MoE formalized the provision and practice of gifted education, including defining the procedures of identification for gifted students. In 2014, the MoE created another initiative entitled "Setting of full system to detect and develop gifted students". The additional services included creating an identification kit for students from kindergarten until early years of elementary education.

The triangulation of the conclusions in Table 4.21 reveals more discrepancies between the existence of the official policies prescribed by the MoE for the definition of giftedness and the methods used to identify gifted students, and the perceptions of the parents, and some of the teachers. The evidence based on the five methods of data collection and analysis indicated that not all of the parents of gifted children and the teachers involved in gifted education had an adequate knowledge and understanding of these issues. The implications are that there is still room for improvement to ensure that school teachers and parents of gifted children in the UAE become more aware of the definitions of giftedness and how gifted students should be identified.

Table 4.22 summarizes the conclusions based on the five methods relating to Question 3: What programmes are offered for them? And how they are implemented. The triangulation of these conclusions reveals even more discrepancies between the existence of the official policies prescribed by the MoE and the perceptions of the parents, and some of the teachers. For example, the MoE prescribed "identification programmes, enrichment programmes, teacher training programmes, equipping

schools with resources, giftedness awareness programmes, publications and related books and strategic/operational plans” whereas, in contrast, the teachers referred mainly to “national and international competitions” and the provisions provided for gifted learners by the Resource Room teacher. The document review revealed the efforts of the MoE to introduce new initiatives for developing gifted students’ skills and to formalize the efforts of the MoE to improve the provision and practice of gifted education. These initiatives did not appear to have been widely implemented at the participating schools. The implications are that there is still room for improvement to disseminate and implement the MoE initiatives for gifted education in the UAE.

**Table 4.22 Triangulation of Conclusions to Address Question 3**

Method	Conclusion
Questionnaire	The most frequent types of provision provided for gifted students, reported by nearly a half of the teachers were the Resource Room and pull out, mainstream class rooms. Enrichment programmes after school hours and weekend programmes were less frequent types of provision. The least frequent types of provision for gifted education were separate gifted schools, separate units/classes within a mainstream setting and summer camps. The most frequent types of gifted programmes used in the schools, reported by over half of the teachers were enrichment and competitions or Olympics.
Interviews	The decision maker at the MoE referred to the use of “identification programmes, enrichment programmes, teacher training programmes, equipping schools with resources, giftedness awareness programmes, publications and related books and strategic/operational plans”. Most of the teachers, however, referred only to “national and international competitions” and the provisions provided for gifted learners by the Resource Room teacher.
Focus group	The parents did not plan their children’s education in general and specifically they were not involved in gifted programme at school
Classroom observation	The majority of lessons attended offered a gifted programme (e.g., enrichment, differentiation and problem solving); however, the lessons were not designed specifically for gifted students, rather they were designed for all the students in the class.

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Document review	An expansion of gifted education programmes in the UAE occurred in the year 2010 by introducing an initiative for developing gifted students' skills. This initiative came to formalize the efforts of the MoE to improve the provision and practice of gifted education. Its objective was to formalize the procedures of identification for gifted students, provide a definition of giftedness, and improve training and programming for gifted students. The SEM model was implemented in 150 schools in 2013.
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Table 4.23 summarizes the conclusions based on the five methods relating to Question 4: What is needed in order to improve the provision of gifted education in order to contribute to the development of the UAE? The triangulated evidence based on the questionnaire, interviews, focus groups, classroom observations provided consistent data concerning the need to provide more teacher training for gifted education, and to develop new curricula and programmes for gifted education. The need for more gifted centres educations was also emphasized. The parents suggested that they should be more involved in the education of their gifted children, including more training and counselling for parents.

**Table 4.23 Triangulation of Conclusions to Address Question 4**

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Method	Conclusion
Questionnaire	The most frequently endorsed themes were (a) to provide more teacher training for gifted education, and (b) to develop new curricula and programmes for gifted education. The creation of gifted education centres and increasing the budget for gifted education were also frequently recommended. The least frequent recommendations were to provide more consultants to advise schools about gifted education, and to increase parental involvement in gifted education.
Interviews	The responses of the interviewees generally emphasized the need for more training of teachers and the provision of more gifted education centres and programmes for gifted learners.
Focus group	The majority of parents called for establishing a community centre for gifted students which provided all services related to gifted

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	programming. One parent said that that the parents of gifted students need training and counselling with regards to dealing with gifted children. One parents thought it was important to have an official law regularizing gifted education. Another parent stated that parents should be more involved in the educational plans of gifted children.
Classroom observation	The observed lessons were not specifically designed for gifted students, implying the need to provide more specific programmes to benefit the development of gifted students.
Document review	The documents did not include a needs assessment for gifted education.

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This chapter summarized all the answer to the research question. Next conclusive chapter will include discussion of the presented findings with linkage to the literature review of the field of gifted education. In addition it will present recommendations to enhance the provision of gifted education in the UAE based on the needs assessment conducted in the current study.

## CHAPTER FIVE: DISCUSSION AND CONCLUSION

### 5.1 Overview

The aim of this study was to assess the implementation of gifted education programmes in seven governmental primary schools in Dubai, based on an exploratory sequential mixed methods design,. The guiding question for this study was: What programs are offered for gifted learners in primary government schools in Dubai? And what is needed in order to improve the provisions of gifted education? In order to answer the above questions, the following sub questions were addressed:

1. What policies are in place to support the provision of service offered to for gifted learners in order to contribute to the country's development?
2. How is giftedness defined in Dubai? And how are the gifted learners identified in order to be served?
3. What programs are offered for them? And how are they implemented?
4. What is needed in order to improve the provision of gifted education in order to contribute to the development of the UAE?

This chapter discusses the findings presented in the previous chapter to address the research questions listed above. The ultimate goal of this study was to provide recommendations to help improve the implementation of gifted education. Because the researcher ostensibly applied ethical principles to collect, analyse, interpret, and report the findings, the researcher suggests that the MoE should be able trust the conclusions of this study, and implement the recommendations with impunity.

The discussion of the results of the current study is structured with reference to The National Association for Gifted Children (NAGC) Pre-K-Grade 12 Gifted Programming Standards published in 2010. These standards were found to be a useful framework to evaluate the implementation of the gifted education programmes at the participating schools in Dubai. Consequently, the discussion of the results is organized into four themes derived from the content analysis of the data, and linked to the NAGC (2010) standards as follows (1) policies and plans (2) definition and identification (3) programmes and implementation; and (4) needs. For details see appendix 8. Table 5.1 maps the alignment between the NAGC (2010) standards, the four research questions, and the four themes that are used to structure the discussion.

**Table 5.1 Alignments of NAGC Standards, Research Questions, and Themes**

NAGC (2010) Standards	Research Questions	Themes
Learning and Development Curriculum Planning and Instruction	What policies are in place to support the provision of service offered for gifted learners in order to contribute to the country's development?	Policy and Plans
Programming Professional Development Learning Environments	What programs are offered for them? And how are they implemented?	Programmes and Implementation
Assessment	2. How is giftedness defined in Dubai? And how are the gifted learners identified in order to be served?	Definition & Identification
-	4. What is needed in order to improve the provision of gifted education in order to contribute to the development of the UAE?	Needs

## **5.2 Participants**

The design of the current study was mixed methods, including the collection and analysis of both quantitative and qualitative data based on questionnaires, interviews, focus groups, and documents. Consequently the results reflected the different sources of data and the many different experiences, perceptions, and perspectives of the participants. The participants included teachers with a wide range of experiences in gifted education. The participants also included a decision maker or officials from the MoE and the parents of gifted children.

The researcher strived to be inclusive in sampling and tried not to exclude any possible participants for reasons not related to the research. The teachers were recruited from seven schools in Dubai. Two thirds of the participants worked with gifted students. Half of the teachers had been trained on gifted programmes, and one quarter of the teachers had training once every year. The majority of the teachers thought that staff in their schools had positive attitudes towards gifted students. Over two thirds of the teachers believed that the needs of gifted students were identified in the same ways as the special education needs of other pupils.

## **5.3 Policies and Plans**

Different participants provided variable evidence for the existence of policies and plans for the regulation of gifted education in Dubai in form of the “General Rules of Special Needs Programs and Services”, in addition to the existence of some Ministerial Decrees. The decision maker participating in the research affirmed that the MoE created appropriate policies to serve the gifted students better; however, none of the interviewed parents knew about these policies. About half of the teachers believed

that there was a national policy for gifted education in Dubai. This finding is not consistent with that of Al Obaidly (2004) who examined the status of gift education in the UAE, and concluded that there were no policies for gifted education in the country. This finding confirms that policies to regulate gifted education in the UAE have been implemented in the last decade; however, many teachers are still not fully aware of their content. The interviewees who said that they knew about the existence of policies or rules regulating gifted education did not possess a copy of the document; they said, however, that the document was available from the resource room teacher, who was responsible for gifted learners and programmes in their schools.

The evidence collected in the current study revealed that discrepancies existed between the official policies developed by the MoE and how the policies were actually implemented in school practice in Dubai. This finding was consistent with that of Al Qarni (2010) who evaluated gifted education programmes in Saudi Arabia. Al Qarni found a similar disparity between the practices that were recommended in the official Saudi policies and the implementation of gifted education policies in Saudi schools. The disparity may indicate that issues related to gifted education policies may be common amongst the Gulf Countries. This disparity is also supported by Al-Lawati (2016) who studied the attitudes of Gulf Country citizens toward the services offered to gifted children. Al-Lawati suggested that the gap between the recommendations provided in the policy documents and the implementation of the policy had a negative effect on both gifted education programmes and gifted students. This gap restrained the progression of gifted education provision and resulted in a deficiency to meet the needs of gifted students.

The decision maker who participated in the current study confirmed that policies regarding gifted education in the UAE were available in the form of a document entitled “The general rules for the provision of special needs programmes and services” published by the MoE in 2010. The purpose of this policy was to regulate, define and identify all special needs for gifted learners. The philosophy behind the education of gifted students in the UAE was also outlined in the guidelines. The clear philosophy for gifted education, based on UNESCO’s “Education for All” was that all learners should get equity in educational opportunity. In the UAE, this philosophy was translated into the “Schools for all” initiative.

It is evident that the MoE is striving to deliver best practices in the field of gifted education by responding to international calls in the field. Nevertheless, the core concentration of the UAE policy is not for gifted students, but for the provision of special education for students with disabilities. Only a few pages of the guidelines were allocated to the regulation of gifted education programmes. The emphasis on disabled students was a result of a government initiative to serve people with disabilities, which were guaranteed by the law no. 26/2006 and its amended version 14/2009 for the rights of persons with disabilities. The special needs of gifted students, however, lack such law. Any regulation regarding gifted education is not perceived as a right for the gifted students, but as a privilege. This is contrary to Vantasel-Baska’s (2006) claim that gifted education should be seen as a right, rather than a privilege. There is a need for a federal law to support the rights of gifted persons.

Some of the parents who participated in this study voiced the opinion that there is no policy regulating the practices of gifted education in Dubai, or else they were not

sure whether a policy exists. Others said that they heard about a policy but had never seen it. The majority of the parents did not have a copy of the policy, and could not recall the name of the policy or the date of its publication. Neither did the parents refer to any kinds of plans with regards to their gifted children's education. This finding is contrary to the recommendations based on previous research regarding the importance of parental involvement to support the educational plan of gifted students. For example, Lopez, Krider, and Caspe (2005) suggested that schools should encourage parents to advocate policies and practices in special education that benefit their children's education.

It appears that the steps taken to disseminate the "The general rules for the provision of special needs programmes and services" published by the MoE in 2010 were not enough, contrary to the requirement for equity in education. The lack of knowledge of the teachers and parents regarding this document indicated that it was not well distributed, and that not enough training was given to the teachers about the contents of the document. This finding identified a need for more awareness and training regarding the policies regulating gifted education in the UAE.

The results of the current study indicated that most of the teachers were not aware if the policies included budget allocation for gifted education in their schools. Furthermore there is a lack of resources for gifted education, reflected by the limited number of teachers specializing in this field. Although the budget for education in the UAE is high (10 billion AED in 2009 according to NQA, 2013), the special needs budget is not enough. Budget allocation priorities for special education may have been affected by political or other priorities in the MoE.

Aljughaiman, Ibrahim & Khazali (2011) highlighted the importance of conducting continuous evaluations to improve the quality of gifted education programmes; however, the evaluation of gifted education programmes in the UAE appears to be insufficient. Except for the end of year evaluation report, there seems to be no regular follow up from the authority represented by MoE on the implementation of gifted education programmes. The decision maker at the MoE pointed out in her interview that insufficient evaluation of gifted education programmes could be a result of a shortage in staff at the Gifted Programmes' Section. In addition the decision maker suggested that there is a difficulty in evaluating gifted education, because the number of staff trained in evaluation was too small compared to the 250 schools enrolled in the "School for all" initiative in 2014. The lack of sufficient human resources to evaluate gifted education in the UAE may consequently affect the quality of the programmes.

Previous research (Johnsen, 2006) has indicated that it is important for gifted students to have allocated governmental provision to supervise programmes created for them. Over 90% of the teachers from seven schools in Dubai who participated in the survey also believed that it is important to have a specialized governmental department for gifted learners. The MoE allocated the Special Education Department as a section in the Federal Ministry in the new organizational chart of 1999/2000. This department is in charge of setting plans and initiatives for gifted education programmes in addition to evaluating their implementation. However, it appears that the human resources allocated to the Special Education Department are insufficient compared to the amount of work that the department has to do.

The findings of the current study indicated weaknesses in distributing plans and initiatives for gifted education created by the MoE. Parents and teachers do not have access to any official documents, except for “The general rules for the provision of special needs programmes and services” published by the MoE in 2010. The only way that the researcher could access other documents was through the decision maker at the MoE, who was very helpful in sending copies of internal documents about plans and initiatives for gifted students. It seems that there is not enough publically available information to document the Ministry’s considerable efforts toward improving the provision of education for gifted students in the UAE.

The internal documents that the researcher reviewed in this study did not make clear how the initiatives for gifted education in the UAE were integrated into a strategic plan. For example, there appears to be little or no relationship between the three initiatives entitled “School for all”; “Nurturing gifted students”; and ‘Developing gifted students skills’. Nevertheless, at the school level, some of the teachers seemed to recognize the existence of a strategic plan for gifted education in their school, however they did not have a copy. The teachers said that the strategic plan was with the principal of the school, or with the resource room teacher. These findings provided further evidence of the limited distribution of documents applying to gifted education in the UAE, and the need for more training of teachers to make them more aware of strategic plans for gifted education. Although the MoE statistics show that around 400 teachers were trained on gifted programmes, however, findings show limited effect of training on teachers’ knowledge about what exist in the field of gifted education.

#### **5.4 Definitions and Identification**

The review of documents and an interview with the decision maker confirmed that an official definition of giftedness has been adopted by the MoE, documented in the Ministry's guideline for services and provision of gifted education, as follows "Gifted students are those who are having an outstanding ability in one or more areas of intelligence, or creativity, or academic achievement or special talents such as poetry, drawing, handicrafts, sports, drama, or leadership". This definition of giftedness supports Subhi-Yamin (1997) study where he states that gulf countries tend to define giftedness according to achievement and creativity. Although most of the teachers in the survey knew that there was an official definition of gifted students for their schools, however, a considerable number of them did not recall it. Additionally, over three quarters believed that this definition was considered as part of special education. The teachers tended to define giftedness differently to the official definition, according to their own experiences and beliefs. The teachers' definitions of giftedness were very variable, including giftedness depends on speed, being different, being creative, having high abilities, skills, and talents, or acting higher than their age group. One teacher stated that she defined gifted learners by the use of the SEM model. Some teachers defined giftedness in terms of the students' scores on subject tests, mental ability tests, and IQ tests. The parents similarly related giftedness to scoring high marks in school achievement tests.

The evidence obtained in the current study indicated that although there is an official definition for giftedness adopted by the MoE and published for schools in Dubai, the teachers and parents defined giftedness partially and differently. This finding is consistent with the view that giftedness is a complex multivariate concept,

which has been defined in many different ways. McAlpine (2004) reported that researchers have identified 213 definitions of giftedness. The failure of teachers and parents in the UAE to adopt the official national definition of giftedness indicates that awareness of this definition was insufficient. These findings provided further evidence of the limited distribution of documents applying to gifted education in Dubai, and the need for teachers to be more aware of the strategic plans for gifted education. Sternberg and Zhang (1995) research support the importance of defining giftedness before programming for gifted students. Definition of giftedness and identification are two faces for one coin. They are both of equal importance to the gifted education system. According to Bracken (2006), definition of giftedness and identification of gifted students are both affecting the "... placing, and providing appropriate services" (p.112).

The MoE realised the importance of identification procedures for the gifted population in schools in order to serve them better. Official procedures for the identification of giftedness were published in the MoE guidelines for special education. The decision maker interviewed in the current study stated that the MoE published the identification process in "The general rules for special education programmes and services". The rules define the steps for identification and the steps, which educators can follow when identifying a student who is gifted. The rules emphasize that all gifted students in the school should get a chance to be discovered. Also the MoE published a guideline entitled "The practical manual for gifted programmes", which in addition to the official procedure, provides suitable tools for each step of the identification procedure. The teachers who participated in the current study supported the statements of the MoE decision maker. The majority of them said that there are official

identification procedures; however, the teachers did not necessarily follow these guidelines. Nearly three quarters of the teachers reported that they had specific screening and identification procedures for discovering gifted students in their school, the most frequent of which included teachers' nominations, achievements tests, IQ tests, and students' products. That's in line with Kornhaber's (1999) findings about assessment tools to identify gifted students were limited to referral or nomination of teachers, schools grades and IQ tests. In contrast, the responses of the parents who participated in this study revealed that they did not know about the identification procedures used in the schools. In spite of the importance of identification for proper gifted programmes, awareness about the procedures is not followed in the participants' schools. Miller (2005) in his work stressed on the importance of providing better opportunities for gifted students, they should be identified. Identification found to be relying more on one tool, which is mostly teacher referral. That could have excluded many gifted students from being identified and therefore was prevented from entering gifted programmes. Multidimensional approach would have benefited the gifted students more than relying on one dimension in identifying them. That is supported by Ziegler & Perleth (1997) in their research findings.

The evidence indicated that teachers rely heavily on their own nominations to determine if a student is gifted, based on their own teaching experience, whereas parents see the school as main source of identification. A disparity was revealed between the identification procedures defined the MoE and the procedures used by the schools. This finding was consistent with that of Al Qarni (2010) who found a similar disparity between the procedures adopted by teachers, and the procedures that were recommended in the official policies for identification of gifted students in Saudi

Arabia. This disparity further confirms that issues related to gifted education policies may be common amongst the Gulf Countries. This finding agrees with Al-Lawati (2016) research on the gulf countries.

## **5.5 Programmes and Implementation**

The findings of this study relating to the availability of gifted education programmes revealed that there was a relatively restricted range of programmes available for the gifted students in the seven participating schools. According to the MoE decision makers these programmes should include identification, enrichment, teacher training, equipping schools with resources, giftedness awareness campaigns, publications and related books and strategic/operational gifted plans. Evidence obtained from the teachers indicated that the most frequent types of programme was enrichment, followed by competitions or Olympiads, field trips, gifted club, and advanced curriculum or curriculum adaptation/modification. The least frequent type of programmes were acceleration and advanced placement, International Baccalaureate, and differentiated curriculum. Competitions is seen by some researchers as a common form of provision, e.g Freeman (2002), she found out that competition can be used to define gifted students capabilities. She emphasized, "Many highly able children used [competition] quite consciously to improve their skills, because of the reward it offered them. But they knew that in order to be effective, the comparison had to be meaningful, as well as part of the process of getting to the top. Which is not the same as the simple thrill of winning" (pp. 93). That shows the importance of competitions, however, other provisions are similarly important for gifted students.

In spite of the number of available programmes, teachers tended to rely heavily on competitions. The majority of teachers appeared not to know about all the choices of programmes the MoE offers. When teachers were asked what does the Ministry offer for gifted learners, most of them responded “national and international competitions”. And the second high response was “Resource Room Teacher knows them” (referring to the teacher of who is responsible for gifted programmes in the school). One of the teachers summarized all the programmes offered by the Ministry of Education as: “enrichment activities, summer camps and international activities”. Another teacher said competing in international Olympiads is one of the opportunities the Ministry offer those who are gifted. The reason for the discrepancies between the programmes described by the Ministry, and those implemented by the schools might be that teachers tended to choose the easiest way of handling gifted students due to their over burdened schedule for catering for all students. Another reason could be that the teachers did not receive sufficient training, resulting in them not being aware of the range of programmes available, and not implementing all the gifted programmes prescribed by the MoE in their classrooms. Additionally, lack of evaluation of programs implemented might have resulted on repetition of the same programme the teacher is mastering, e.g., enrolment in competitions.

The parents’ responses regarding the available gifted education programmes indicated that they believed that enrolment in competitions and Olympiads was the most frequently offered programme. However, parents generally lacked involvement in planning their children’s gifted education programmes. One parent stated that gifted education programmes at schools were insufficient. Teachers were excluded from planning their children’s education. These findings were consistent with Hill-

Anderson's (2008) study which indicated that parents of gifted children seem not to be very closely involved in their children's educational plan

As for the provision of gifted education, the results of this study indicated that the gifted education facilities appear to be adequate. The most frequent type of provision, reported by nearly half of the teachers was the Resource Room, followed by mainstream class rooms, enrichments programmes after school hours, and weekend programmes. Separate gifted schools, separate units/classes within the mainstream settings, and summer camps were less frequently provided. The results of considering the resource room provision common in Dubai, is consistent with Subhi-Yamin (1997) research. As in his research on the programs of gifted education in the Arab countries, showed that resource room is a common provision among different countries.

Resource Rooms have dominated the provision of gifted education in Dubai and the UAE for many years. The reason for the widespread use of Resource Rooms was that this type of facility has been recommended by the MoE since 2000 when the gifted education system was first introduced to the schools (Abood, n.d.). Any school with a Resource Room was counted as having the proper facilities for gifted students. Fifteen years of practicing gifted education through the provision of Resource Room has made this facility widely acceptable in the schools. Schools see it appropriate for gifted students, as it does not require them extra efforts. Mainstream teacher of regular classroom sees sending students to resource room is better than catering for them themselves. They see the resource room teacher more knowledgeable and trained on gifted education programs.

The findings of the this study relating to implementation of gifted education in the participating schools, based on classroom observations, revealed that the majority of lessons attended offered limited opportunities for gifted students (e.g., enrichment, differentiation and problem solving). Furthermore, these lessons were not specifically designated for gifted learners; rather they were for the whole class. Gifted students appeared to be bored in regular classroom lessons. This inline with several studies, for example Davis, Rimm and Siegle's (2011) research found that some students are bored in schools and it is not challenging enough. Renzulli & Park (2002) also found that gifted students are bored and frustrated. Van-Tassel Baska (1995) highlighted the importance of having differentiated curriculum that helps the gifted students to challenge their abilities and reach their potentials. A need emerge from the findings of the current research to have a curriculum which cater for the unique need of the gifted students. Many researchers support the importance of differentiation for gifted students in the regular classroom (Hong, Greene & Higgins, 2006; Schlichter and Brown, 1985; Tomlinson, 2007). All of the observation attended was in regular classroom that means the gifted student is in a mainstream class receiving same curriculum as others.

In observation A, the content was delivered for students in a regular manner. No gifted programme was offered nor were the gifted students recognized. In Observation B, the teacher used problem solving in one of the workshops provided for the students in addition to brainstorming, however it was for the whole class, and not just for the gifted students. In observation C, the teacher used problem solving to explain the lesson and deliver the content in addition to enrichment within the curriculum. In observation D, no gifted oriented programme was implemented. In observation E, a differentiation strategy was used for the groups according to their

ability. It was noticed that the teacher was energized and lively in term of delivering the content of the lesson that affected her students positively. She had differentiated to cater for different needs. In conclusion, all of the observed settings did not provide challenging educational opportunities to meet the needs of gifted students. Other educators who have evaluated gifted education programmes (e.g., Sternberg, 2005; Sternberg & Grigorenko, 2007) have suggested that gifted students need more challenging educational opportunities to meet their unique needs and nurture their abilities.

When the teachers were asked what they offered in their class for gifted learners, most of them replied “differentiation in content” and worksheets. The majority of the observed lessons were differentiating, whether in the content or in the worksheet provided at the end of the lesson. Higher order thinking skills seemed to be targeted during delivering the content for three of the observation settings. However, the students were not encouraged to be creative. Previous research has indicated that these types of teaching strategies do not push the students toward creative production (Rogers, 2007).

The teachers tended to encourage the gifted students to enrol in competitions related to their gifted domain rather than to develop these gifts within the classroom. Other teachers tend offered gifted students an extra activity worksheet, to help improve their thinking skills. These types of activities lacked specialization and effectiveness to challenge gifted students. It appeared that the unique needs of the gifted students were not met during the lesson delivery. The evidence obtained by observing gifted programmes offered to the students in classroom did not appear to help them increase

their motivation towards learning, include interested elements, differentiate between individual needs, or employ different teaching strategies, as recommended by specialists in gifted education (e.g., Callahan & Hertberg-Davis, 2013). The classroom observations indicated that the schools had not created an educational curriculum to meet the needs of the gifted students, as recommended by Aljughaiman, Ibrahim & Khazali (2011).

Furthermore, no evidence was found by the researcher for the existence of supporting programmes, such as counselling and guidance for the gifted students, their teachers or their parents. This result is in line with Vantasel-Baska's (2006) research, which found that there is a general lack of specialized counselling programmes for gifted students and their parents. Effective programmes for gifted students and their parents are also rare in other countries. Brown (2010) and Johnsen (2012) complained that gifted students frequently suffer from the ineffectiveness of the programmes that are allocated for them in school. In an evaluation of gifted education programmes in Saudi Arabia, Al Qarni (2010) revealed that there is no special curriculum, which meets the unique needs of gifted students. Such similarities in the findings regarding gifted programs emerges the need in many countries for specialized curriculum that cater for gifted students needs.

Additionally, the findings show limited out of school enrichment programs. All the available opportunities were provided within the school and inside a regular classroom. Some of the opportunities were received in the recourse room. However, out of school enrichment programmes proved interested to the gifted students and challenge their abilities. Moreover such programmes seem to be enjoyable for the

gifted students (Subotink et al. (2010) and Pereira et al. (2010) research illustrated the positive side of gifted programmes offered for gifted students as out of school enrichment programmes. Wallace (2009) in his study suggested another form enrichment programme that is offered out of school (2006), such programme consist of distance learning opportunity. That form of programmes was not found among the participated schools. The existence of such programme would benefit the gifted students with exposing him to more opportunities.

## **5.6 Needs**

The findings of this study regarding the barriers to the development of gifted education provision in Dubai showed that the majority of teachers believe that there is a lack of training in the field of gifted education. Some teachers perceived that that the lack of experts in gifted education is a barrier for improving the provision of gifted education in Dubai. The parents' responses to the same question indicated that providing training and counselling services for gifted learners' parents would also improve gifted education programmes. The need for more training and expertise in gifted education is not, however, restricted to Dubai. Recent studies have also indicated that there appears to be a general lack of professional development to support gifted education by teachers who are already trained in regular education (Hertberg-Davis & Callahan, 2013). Besides training, other form of professional support is required for teachers, e.g., Co-teaching and Mentoring. Both programmes were not found in this study, however, many teachers found training is not sufficient for them to equip with knowledge to deal with gifted students. Co-teaching and mentoring can help teacher to be knowledgeable in working with gifted students. Research found such programs can benefit the field of special needs in general and gifted education in

specific (Bauwens, 1989; Hughes & Murawski, 2001; Magira, 2005; Sileo and Van Garderen, 2000). Griffin, Winn, Otis-Wilborn, and Kilgore (2003) called for more experts, who could act as mentors or counsellors, to support the needs of teachers working in a special education environment. Bryan et al. (2011) also commented on the need for more school counsellors to support parents in their efforts to improve the education of their children.

Another group of interviewees suggested that the lack of proper identification tools was preventing gifted education from progressing in Dubai. The reporting of inadequate identification procedures, as barrier was consistent with the disparity that the researcher found between the identification procedures defined by the MoE and the actual identification procedures used by the schools in Dubai.

Ineffective school management was also perceived to be a barrier that may reduce the quality of gifted education in Dubai. This view was consistent with the suggestion that effective management, underpinned by strong school leadership, has an important role to play in the implementation of special education programmes (Kilgore et al., 2002).

The most frequent barrier reported by the parents was excluding them from participating in the planning of their children's gifted education programmes. The schools appeared to contravene the overlapping spheres of influence model developed by Epstein (2001), which places the student at the centre of a triangle, with connections to the school, the parents, and the community. Epstein's model may help parents to

play a pivotal role in the schooling of their children; however, it only operates effectively if the role of parents is defined by school policy (Bower & Griffin, 2011).

Some teachers suggested that opening a specialized centre for gifted students would be beneficial. In addition a suggestion was made about allocating special schools for gifted children. Another parent affirmed the importance of having specialized centres and school for gifted learners. The majority of parents called for establishing a community centre for gifted students, which provided all services, related to gifted programming. One parent said “a replication of Hamdan Centre for giftedness should be available in every neighbourhood”. These suggestions supported the benefits of the pulling out gifted students into specialized settings, as implemented in different practices (Thomas, 2000; Thompson, 2011).

The other needs reported by the participants of the current study included (a) having a national day to celebrate giftedness; and (b) introducing incentives for gifted students and teachers of gifted students. Incentives were seen important to encourage teachers to work with gifted students.

## **5.7 Summary and Conclusions**

The current study was the first of its kind to assess the needs for the provision of gifted education in Dubai using NAGC’s programmes standards. The reviewed documents include a needs assessment for gifted education in the UAE based on empirical data; moreover, the current study filled this gap in the literature.

The findings of this study indicated that there has been positive progression in

the field of gifted education in the 21<sup>st</sup> century. On the other hand, the findings raised questions about the modes of implementation of gifted education and related issues, including the definition and identification of giftedness. There are several discrepancies between the existence of the official policies prescribed by the MoE and the definition of giftedness, the methods used to identify gifted students, and the perceptions of the parents, and some of the teachers. There seems to be a deficiency in the planning, dissemination, and implementation of the official policies. Haddad & Demsky (1995, p. 30) stressed that “once a policy has been chosen, planning for policy implementation should begin immediately” (p. 35). Although a policy have been found in place and a plan was adopted by the authority represented by MoE, nevertheless, the implementation did not reflect clearly the policy or the plan. The introduction of a policy needs to be supported by effective action plans and information on procedures (Taylor, 2001). Although the MoE introduced new initiatives for developing gifted students’ skills and formalized improvements in the provision and practice of gifted education, these initiatives did not, however, appear to have been widely implemented at the participating schools. Few teachers appeared to be benefiting from the guidelines. In addition, training of those teachers seems to be not sufficient.

The evidence provided in this study supported the need to organize more training for teachers in gifted education, and to develop new curricula and programmes for gifted education. It is important that the curriculum meets the unique needs of the gifted students in order for them to reach their potentials and benefit their countries. The need for more gifted education centres was also emphasized along with the necessity of involving parents in their gifted children in educational plans, including more training and counselling for parents.

Although there is evidence for the existence of policy on gifted education in the UAE, the findings of this study demonstrated that there is a gap between the written policy and the practice of implementation. There is also no Federal Law to guarantee gifted persons' rights, similar to law 26/2009 that guarantees the rights of people with disabilities'. The finding of non-existence of federal law for the gifted is in line with Elhoweris's (2014) research as she pointed it in her study. Although the Ministry did its best to provide schools with official guidelines relating to the definition of giftedness and the identification of gifted learners, there is a problem in implementing these guidelines in practice.

Although the MoE has recommended various types of gifted education programme, the majority of teachers tend to rely on enrolling students in national and international competitions. Although a number of gifted education programmes were observed in the schools, these were delivered to the whole class. No programmes created specially to cater for the unique needs of the gifted student were implemented, and no special curriculum exists for gifted students. In most of the observations conducted by the researcher, the teachers' role was a facilitator and students' engagement level was high. However, some gifted students felt bored and seemed to view the lesson as being too easy for their level.

The parents of gifted students who participated in this study were aware of the need to improve the provision of education for their gifted children. Although they defined giftedness according to their own experience, they realised the importance of designing specialized programmes for their identified gifted children. Parents believed

that the schools were the main source for identifying gifted learners, however, they were not aware of the identification procedures. Although parents understood the value of specialized programs, they were concerned that the main programmes were Olympiads and international completions.

In conclusion, this study revealed a remarkable gap between the national policies for gifted education developed by the MoE, and how this policies are implemented in the schools. This disparity has caused great confusion among teachers, parents, community with regards to the definition or giftedness, the identification of gifted students and the availability of programmes offered for them. Moreover, the lack of Federal Law for the right of gifted persons resulted in taking gifted education for gifted students as a choice. Gifted students according to Davis & Rimm (2004) were defined as students with special needs. Their unique needs shall be met in the educational setting in order to promote their potential and benefit their nation as a result. Gifted students are thought by the majority that they will pass their education without support; nevertheless, many of them will not excel without meeting their needs by the educational system. Therefore, the educational system should be distinguished in providing a quality of education for the gifted and talented and meet their needs in order to reach their potentials and serve the nation. Quality in gifted education can include everything, starting from identification and ending to programs provided for the gifted and talented.

Gifted programmes are important and essential because for many reasons: (1) it helps in early identification of gifted students; (b) provide environment which enhance the gifted students learning; (c) it is essential for resource allocation and (d) it helps in

meeting the gifted students unique needs.

## **5.8 Recommendations for improvements**

Based on the findings and discussion of the study, the researcher presents several recommendations. First, there should be a federal law for gifted person's rights. Such law should mandate all policies or regulations in place. The current available policies or regulations regarding gifted education at the MoE level are limited to written policies. The implementation of those policies is not sufficient with regards to definition, identification and programmes. Having a federal law will mandate and strengthen the existing regulations. Currently, schools and teachers are having other priorities in special needs (e.g., the inclusion of students with disabilities in schools and how to cater for them). The law no. 26.2006, and its amended version law no. 14/2009, mandates the rights of persons with disabilities. Law no. 26/2006 and its amended version law no.14/2009 are federal laws that regulate the lives of persons with special needs. The existence of a similar federal law for the gifted persons will benefit gifted education programmes, by allowing for a higher budget and stricter evaluation systems gifted education initiatives.

Secondly, a national authority for gifted education is recommended. This authority will be the official body to follow and organize different related gifted initiatives whether it is from the MoE or other interested entities in the field (e.g., the Hamdan Educational Award). Findings of this study showed that definition of gifted students, identification procedures and programmes were seen differently by the participating personnel. Having a national authority will organise and mandate all the practise in gifted education, in addition to evaluate them. Since the MoE created

almost all existing initiatives regarding gifted education, having an external evaluation will benefit its development. The MoE evaluates the current initiatives once each year, but the results are not published and the impact of such initiatives on the students' education is not known. Publishing results will help parents consider the educational choices and opportunities available for their children in addition to choice of school based on its evaluation results.

Thirdly, a wider training plan is needed for all stakeholders related to gifted students, including the parents, teachers, schools, and the community. The current training was reported to be insufficient. Training for teachers started since 2008, however, there was no evidence to describe the quality of the training or its impact in the schools. Evaluation of such training for gifted education teachers does not exist, however, this study revealed that there is not enough training, and there is a need for more. Although the MoE train around 200 teachers every year, their training impact on the educational system has no evidence. Training should include all aspects and elements of effective gifted programs. It should include but not be limited to training on gifted students identification, the implementation of new programmes, and curriculum. This training should also emphasize the need for more parental school involvement. Parents also need specialized training. They need to be educated on the way of dealing with gifted child, characteristics of their gifted children and what they as a parents can offer to support and nurture their kids' gift.

The fourth recommendation is related to awareness. Currently the MoE has published policies for gifted education programmes; however, the implementation in schools does not reflect those policies. Many of the teachers and all of the parents who

participated in this study had not seen or read the documents describing these policies. A need has emerged for a wider awareness campaign to introduce the philosophy behind educating the gifted student and the existing regulations for the gifted programs to teachers and parents.

Lastly, it is recommended to establish a gifted centre to cater for the special needs of gifted students in Dubai. Additionally this centre should provide counselling support to schools in their responsibility to cater for gifted students. A specialized centre for gifted students seems to be more attractive to parents as a choice of gifted program and provision. Although Hamdan Award is excluded from this study, the participating individuals referred to Hamdan Award when discussing gifted students' education. Parents described Hamdan Gifted Centre as a good opportunity and best investment for the holidays their kids take. They tend to send their kids to that centre during the holidays. Many parents in the study suggested a replication of Hamdan Centre.

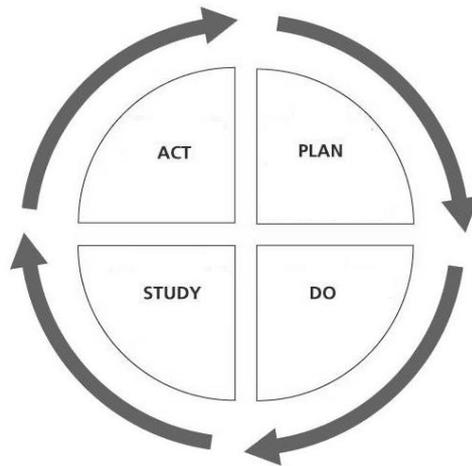
### **5.9 Recommendations for Future Research**

Based on findings of the current study, the researcher provides several suggestions with regards to future research. The current study should be replicated within a time span of five years to re-evaluate the implementation of the gifted education programmes at primary schools in Dubai. Furthermore it is advisable to extend the current study, which was restricted to primary schools, so that it focuses on the implementation of gifted programmes on a higher level of school education (e.g., level 2 and secondary school). New research is recommended to compare between the MoE and the Hamdan Education Award's gifted education programmes, with regards

to their regulations, definition, identification, programmes and evaluation. New studies are recommended to survey the perceptions and attitudes of teachers, parents, and members of the community towards the policies and practices of gifted education the UAE.

An innovative strategy is necessary to make the radical changes necessary to have a positive future impact on the provision and quality of gifted education in the UAE. The UAE has introduced recently an innovation strategy and the UAE is working towards achieving its goal. UAE strives to be among the most innovative nations in the world (UAE Cabinet, 2015). It is necessary after a few years of implementing the innovation strategy to study its impact on gifted education in the UAE and Dubai. Dubai is focusing on innovation with EXPO 2020 hosting, and will rely on those who are gifted to create and innovate for the future.

In rapidly changing environments, a well-designed research strategy is essential to monitor the management of organizational change (Armstrong, 2006). Consequently, the recommendations for future research outlined above should ideally be implemented using a formal Plan-Do-Study-Act (PDSA) cycle, as illustrated in Figure 5.1



**Figure 5.1 PDSA Cycle**

The PDSA cycle is a widely used research model applied by leaders in educational, healthcare, and business environments to determine and manage the impact of organizational changes (Anderson & Anderson, 2001). The rationale underlying the PDSA cycle is that it is an evidence-based approach to the management of change. The PDSA cycle avoids the common mistake of leaders taking action to make organizational changes without careful study, both before and after taking the action. Plan refers to planning an organizational change, which was the reason for conducting the current study, to assess the future needs for gifted education in Dubai. Do refers implementing an intervention that is intended to bring about an organizational change, based on the Plan phase. Study refers to analysing the impact of the intervention. Act refers to taking action based on the results of the study. If the intervention is found not to be successful, then the cycle can be repeated again with a different plan.

The Plan phase of the PDSA cycle has already been completed by the researcher in the current study. The researcher had to review all the data that is

currently available on gifted education in Dubai before the subsequent phases of the cycle could be implemented. The following presents an example of how the Do, Study, and Act stages of the PDSA cycle might be implemented in practice. In the Do phase, the MoE could prescribe and implement an intervention aiming to improve the provision of gifted education programmes in UAE, based upon the policies that the MoE has already developed. For example, this intervention could consist of disseminating information to parents and teachers at schools in Dubai to make them all more fully aware of the new policies developed by the MoE in the last decade to promote gifted education. The do phase should first be conducted using a small sample of teachers and parents before implementing it across the entire population, because less time, money, effort, and risk is involved if a small sample is used (Langley et al., 2009). Consequently, in the first instance, the do phase should be temporarily implemented for one year at selected schools in Dubai rather than all schools in UAE.

During the study phase, the researcher will conduct a survey to determine the outcomes of the intervention. The survey will involve the collection of quantitative and qualitative data to reflect the teachers' and parents' knowledge and understanding of the MoE's policies regarding gifted education. In the act phase, the researcher will analyse the results of the study phase (e.g., by comparing the data collected in the do phase with the data collected in the current study). If the results indicate that the intervention has helped the parents and teachers to acquire better knowledge and understanding of the MoE policies, then the recommended intervention can be implemented on a broader scale in UAE, and the PDSA will be continued from there. If the first intervention is found not to be effective, then a different intervention will be planned at, and the PDSA cycle will be continued from there.

## **5.10 Final Thoughts**

The quality and provision of gifted education in the UAE has improved significantly in the 21<sup>st</sup> century; however, there is still much room for improvement. The future of gifted education in the UAE is dependent not only upon the development, dissemination and implementation of policies prescribed by the MoE, but also upon an evidence-based approach to the evaluation of gifted education and the management of change.

This study identified the key issues of concern with regards to the need for changes in gifted education, and has brought those issues into the context of previous and future research. To end this thesis on an optimistic note, the future looks bright for gifted students in the UAE. As emphasized by one of the interviewees who participated in this study, it is essential “To keep one’s mind open and accept the change”.

The researcher has gained a lot while going through this research journey. As an advocate of gifted education, She though she know a lot about the field. This research helped to in light the researcher more deeply about the field of gifted education. The process of learning though out this journey made the researcher more convinced about the importance of meeting the needs of the gifted learners, for they are the real investment for any nation. The researcher is aiming at continuing the journey of learning and supporting education of the gifted students in order to contribute to her countries’ vision of being among the best. As a final thought, “Giftedness is arguably the most precious natural resource a civilization can have” (Sternberg & Davidson 1986, as cited in Pfeiffer 2002, p.32).

## REFERENCES

- Abood, A. (n.d). *'ALMASERA' history of special needs in the UAE*. Ministry of Education: Special Abilities Department's publications.
- Al Obaidli, A. (2006). *Educating the gifted and talented in government schools in the United Arab Emirates (UAE): status and recommendations*. Un-published Master's Thesis. The British University in Dubai
- Al Qarni, M. (2010). *Evaluation of Provisions for Gifted Students in Saudi Arabia*. Unpublished Ph.D., University of Wollongong.
- Al-Hadabi, A. (2010). Yemeni Basic Education Teachers' Perception of Gifted Students' Characteristics and the Methods Used for Identifying These Characteristics. *Procedia - Social and Behavioral Sciences*, 7, pp.480-487.
- Al-Lawati, F. (2016). *The Attitudes of GCC Citizens toward the Services Offered to Gifted Students*.
- Alahbabi, A. (2009). K-12 special and general education teacher's attitudes toward the inclusion of students with special needs in general education classes in the United Arab Emirates (UAE). *International Journal of Special Education*, vol. 24(2), pp. 42–54.
- Aljughaiman, A.M., Ibrahim, U.M.A. and Khazali, T.M., (2011). An evaluation of learning outcomes of summer enrichment gifted programs in Saudi Arabia. In *Conference on Creative Education ( C C E 2 0 1 2 )*, China. 2012
- Allana, G. (2010). *Is academic excellence in school children based on IQ: a review of private schools in Dubai regarding the gifted and talented*. Un-published Masters Thesis. The British University in Dubai.
- Anderson, D. & Anderson, L.A. (2001). *Beyond change management: advanced strategies for today's transformational leaders*. San Francisco: Jossey-Bass/Pfeiffer.
- Anderson, L. W., & Burns, R. B. (1989). *Research in classrooms: the study of teachers, teaching, and instruction*: Oxford: Pergamon Press.
- Armstrong, M. (2006). *Strategic human resource management*. (3<sup>rd</sup> ed.) London: Kogan Page.
- Atieno, O. P., (2009). An Analysis of the Strengths and Limitations of Qualitative and Quantitative Research Paradigms. *Problems of the Education in the 21<sup>st</sup> Century*, 13, 13-18.

- Babbie, E.R. (2010). *Basics of social research* (12<sup>th</sup> ed.) Belmont CA: Wadsworth.
- Bailey, K. M. (2001). Observation. In: Nunan, D. and Carter, R. (2001). *The Cambridge guide to teaching English to speakers of other languages*. Cambridge: Cambridge University Press: 114-119.
- Ball, S. (2011). Evaluating educational programmes. ETS Research Report Series. No. RR-11-15. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/j.2333-8504.2011.tb02251.x/pdf>
- Bandura, A. (1989). Social Cognitive Theory. *Annals of child development. Vol. 6. Six Theories of Child Development* (pp.1-60).Greenwich, CT: JAI Press.
- Barnard, W. M. (2004). Parent involvement in elementary school and educational attainment. *Children and Youth Services Review, 26*, 39-62.
- Baron-Epel, O., Kaplan, G., Weinstein, R. and Green, M. (2010). Extreme and acquiescence bias in a bi-ethnic population. *The European Journal of Public Health, 20*(5), pp.543-548.
- Basham, J., Israel, M., Graden, J., Poth, R. and Winston, M. (2010). A Comprehensive Approach to RTI: Embedding Universal Design for Learning and Technology. *Learning Disability Quarterly, 33*(4), pp.243-255.
- Bauwens, J., Hourcade, J. and Friend, M. (1989). Cooperative Teaching: A Model for General and Special Education Integration. *Remedial and Special Education, 10*(2), pp.17-22.
- Bazely, P. (2002). Issues in mixing qualitative and quantitative approaches to research. Retrieved from: <http://www.researchsupport.com.au/MMIssues.pdf>
- Bell, J. (2005). *Doing your research project; a guide for first-time researchers in education, health and social science*. 4<sup>th</sup> edition. Berkshire: open University Press.
- Bennett, T., Bruns, D. and Deluca, D. (1997). Putting inclusion into practice: perspectives of teachers and parents. *Exceptional Children Journal, 64*(1).
- Biggs, J. (2000). *Assessing for quality in learning*. In L. Suskie (Ed.), *Assessment to promote deep learning. Insights from AAHE's 2000 and 1999 assessment conferences*. Washington DC: American Association for Higher Education.
- Bishop, K. (2000). The Research Processes of Gifted Students: A Case Study. *Gifted Child Quarterly, 44*(1), pp.54-64.

- Bleske-Rechek, A., Lubinski, D. and Benbow, C. (2004). Meeting the Educational Needs of Special Populations: Advanced Placement's Role in Developing Exceptional Human Capital. *Psychological Science*, 15(4), pp.217-224.
- Bower, H. and Griffin, D. (2011). Can the Epstein Model of Parental Involvement Work in a High-Minority, High-Poverty Elementary School? A Case Study. *Professional School Counseling*, 15(2), pp.77-87.
- Bracken, B. (2006). Behavioral Identification and Assessment of Gifted and Talented Students. *Journal of Psychoeducational Assessment*, 24(2), pp.112-122.
- Bradshaw, D., Tennant, L. & Lydiatt, S. (2004). Special Education in the United Arab Emirates: Anxieties, attitudes and aspirations. *International Journal of Special Education*. vol. 1(1), pp. 49-55.
- Brislin, R. (1970). Back-Translation for Cross-Cultural Research. *Journal of Cross-Cultural Psychology*, 1(3), pp.185-216.
- Brown, A. (2010). Qualitative method and compromise in applied social research. *Qualitative Research*, 10(2), pp.229-248.
- Brown, S., Renzulli, J., Gubbins, E., Siegle, D., Zhang, W. and Chen, C. (2005). Assumptions Underlying the Identification of Gifted and Talented Students. *Gifted Child Quarterly*, 49(1), pp.68-79.
- Bryan, J., Moore-Thomas, C, Day-Vines, N. L., & Holcomb- McCoy, C. (2011). School counsellors as social capital. *Journal of Counseling & Development*, 89,190-199.
- Bryman, A. (2007). Barriers to Integrating Quantitative and Qualitative Research. *Journal of Mixed Methods Research*, 1(1), pp.8-22.
- Burnes, B. (2004). Kurt Lewin and the Planned Approach to Change: A Re-appraisal. *Journal of Management Studies*, 41(6), pp.977-1002.
- Burns, R. B. (2000). *Introduction to Research Methods* (4<sup>th</sup> ed.) Frenchs Forest, NSW: Pearson Education Australia.
- Callahan, C. and Hertberg-Davis, H. (2013). *Fundamentals of gifted education*. New York, NY: Routledge.
- Callahan, C. M. (1986). Asking the right questions: The central issue in evaluating programs for the gifted and talented. *Gifted Child Quarterly*, 30(1), 38-42.
- Callahan, C. M., & Caldwell, M. S. (1995). *A practitioner's guide to evaluating programs for the gifted*. Washington, DC: National Association for Gifted Children.

- Campbell, J. R., & Walberg, H. J. (2011). Olympiad studies: Competitions provide alternatives to developing talents that serve national interests. *Roeper Review*, 33, 8–17.
- Chalmers, A. (1982). *What is this thing called science?* Queensland, Australia: University of Queensland Press.
- Cheung, C., & Pomerantz, E. (2012). Why does parents' involvement enhance children's achievement? The role of parent-oriented motivation. *Journal of Educational Psychology*, 104, 820–832.
- Clark, B. (2002). *Growing up gifted*. Columbus, Ohio: Merrill Prentice Hall.
- Cohen, L., Manion, L. and Morrison, K. (2000) *Research Methods in Education* (5<sup>th</sup> Ed.) London: RoutledgeFalmer
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education*. London: Routledge-Falmer.
- Coleman, M. R., & Johnsen, S. K. (2011). *Rtl for gifted students*. Waco, TX: Prufrock Press
- Collins, K.M.T., & O'Cathain, A. (2009). Ten points about mixed methods research to be considered by novice researchers. *International Journal of Multiple Research Approaches*, 3, 2-7.
- Creswell, J., & Plano Clark, V. (2007). Designing and Conducting Mixed Methods Research. Thousand Oaks, CA: Sage. *Organizational Research Methods*, 12(4), pp.801-804.
- Creswell, J.W. (2014). *Research design: qualitative, quantitative, and mixed methods* (4<sup>th</sup> ed.). Thousand Oaks, CA: Sage.
- Cronbach, L.J. (1982). *Designing evaluations of educational and social programs*. San Francisco, CA: Jossey-Bass.
- Davis, G. & Rimm, S. (2004). *Education of the Gifted and Talented*. 5<sup>th</sup> edition. Boston: Allyn & Bacon.
- Davis, G. A., Rimm, S. B., & Siegle, D. (2011). *Education of the Gifted and Talented*. (6th ed.). Upper Saddle River, New Jersey: Pearson.
- Delgado-Gaitan, C. (2001). *The power of community: Mobilizing for family and*
- Delisle, J. (1999). Neither freak nor geek: The gifted among us. *Education Week on the WEB*. 19, 36-39.
- Denzin, N.K., & Lincoln, Y. (2008). *Strategies of qualitative inquiry* (3<sup>rd</sup> ed.). Los Angeles: Sage Publications.

- Denzin, N.K. (1997). *Triangulation in educational research*. In: P. Keeves (Ed.) Educational research methodology and measurement: an international handbook. London, UK: Pergammon.
- Dimitriadis, C. (2012). Provision for mathematically gifted children in primary schools: An investigation of four different methods of organizational provision. *Educational Review*, 64, 241–260
- Dixon-Krauss, L. (1996). *Vygotsky in the classroom. Mediated literacy instruction and assessment*. White Plains, NY: Longman Publishers.
- Dodd, A. W., & Konzal, J. L. (2002). *How communities build stronger schools: Stories, strategies, and promising practices for educating every child*. New York: Palgrave.
- Donaldson, S.I. (2007). *Program theory-driven evaluation science: Strategies and applications*. Mahwah, NJ: Erlbaum.
- Duan, X., Shi, J. and Zhou, D. (2010). Developmental changes in processing speed: influence of accelerated education for gifted children. *Gifted Child Quarterly*, 54(2), 85- 91.
- Dwairy, M. (2004). Parenting Styles and Mental Health of Arab Gifted Adolescents. *Gifted Child Quarterly*, 48(4), 276-286.
- Edwards, P.A. (2003). *School, family, and community partnership: Preparing educators and improving schools*. Oxford, UK: Westview Press.
- Elhoweris, H. (2008). The effect of the child's disability on United Arab Emirates in-service teachers' educational decisions regarding gifted and talented children. *Educational Studies*, 34(5), 557–564.
- Elhoweris, H. (2009). United Arab Emirates pre-service teachers' attitudes toward gifted and talented children with disabilities in Gowri P. & Themina K. Volume of *Educational Access and Social Equity: a global perspective*. USA: University press of America.
- Elhoweris, H. (2014) The Effect of the Label “Giftedness” on United Arab Emirates Pre-Service Teachers’ Diagnosis Decisions. *International Journal of Education and Research*. Vol.2, no.11, nobemver 2014. 515- 524
- Epstein, J. L. (2001). *School, family, and community partnerships: Preparing educators and improving schools*. Boulder, CO: Westview Press.
- Fasko, D. Jr. (2001). An Analysis of Multiple Intelligences Theory and Its Use with the Gifted and Talented. *Roeper Review*, 23(3), 126-136.

- Feilzer, M.Y. (2010). Doing mixed methods research pragmatically: implications for the rediscovery of pragmatism as a research paradigm. *Journal of Mixed Methods Research*, 4, 6-16.
- Feinberg, W. (2009). Critical pragmatist and the reconnection of science and values in educational research. *European Journal of Pragmatism and American Philosophy*, 4, 222-240.
- Feldhusen, J. F. (2001). Talent Development in Gifted Education. *ERIC Digest* E610. ERIC Clearinghouse on Disabilities and Gifted Education, Arlington, VA [Assessed 13/2/2012]. Available at [www.eric.ed.gov](http://www.eric.ed.gov)
- Field, A.P. (2011). *Discovering statistics using SPSS*. (4<sup>th</sup> ed.). Thousand Oaks, CA: Sage.
- Finlay, L. (2002). Negotiating the swamp: the opportunity and challenge of reflexivity in research practice. *Qualitative Research*, 2, 209-230.
- Foust, R. C., Gerberg-Davis, H. and Callahan, C. M. (2008). “Having it All” at Sleep’s Expense: The forced choice of participants in advanced placement courses and international baccalaureate programs. *Roeper Review*, 30.121-129.
- Fraenkel, J.R., & Wallen, N.E. (2010). *How to Design and Evaluate Research in Education*. (7<sup>th</sup> ed.). New York: McGraw-Hill.
- Freeman, J. (1999). Teaching gifted pupils. *Journal of Biological Education*, 33(4), pp.185-190.
- Freeman, J. (2002). A report for the Department of Education and Skills London. [online]. [assessed 15<sup>th</sup> April 2014], available at [http://joanfreeman.com/pdf/Text\\_part\\_one.pdf](http://joanfreeman.com/pdf/Text_part_one.pdf)
- Friend, M. (2010). Co-teaching: An illustration of the complexity of collaboration in special education. *Journal of Educational and Psychological Consultation*, 20, 9-27.
- Gaad, E. (2010). *Inclusive education in the Middle East*. New York: Routledge.
- Gaad, E., Arif, M. and Scott, F. (2006). Systems Analysis of the UAE Education System. *International Journal of Educational Management*, 20(4), 291-303.
- Gagné, F. (1992). *On the differentiated nature of giftedness*. Keynote address at *Guiding the Gifted National Conference: Proceedings of the Guiding the Gifted Conference*, Auckland.
- Gaither, J. (2008). A former student’s perceptions of not gifted, just different: a case study. *Gifted Child Today*, 31(4), 46-58.

- Gallagher, J. (2000). Unthinkable thoughts: education of gifted students. *Gifted Child Quarterly*, 44(1), 5-12.
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York: Basic Books.
- Gardner, H. (1999). *Intelligence reframed: Multiple intelligences for the 21st Century*. New York: Basic Books.
- Gardner, H. (2004). *Globalization: Culture and education in the new millennium* (M. Suarez-Orozco, M., & D. Qin-Hilliard, Eds.). Berkeley and Los Angeles, California, USA: University of California Press.
- Gibson, S. and Efinger, J. (2001). Revisiting the Schoolwide Enrichment Model- An Approach to Gifted Programmeming". *Teaching Exceptional Children*, 33(4), 48-53.
- Glesne, C. (2006). *Becoming Qualitative Researchers: An Introduction*. 3<sup>rd</sup> edition. Boston: Pearson Education.
- Glesne, C. (2011). *Becoming qualitative researchers: An introduction*. 4<sup>th</sup> ed. Boston, MA: Pearson Education.
- Godwin, S. (2006). Globalization, education and emiratization: a study of the United Arab Emirates. *The Electronic Journal on Information Systems in Developing Countries*, 27(1), 1-14.
- Gordon, M.F., & Louis K.S. (2009). Linking parent and community involvement with student achievement: comparing principal and teacher perceptions of stakeholder influence. *American Journal of Education*, 116, 1-31.
- Graffam, B. (2006). A case study of teachers of gifted learners: moving from prescribed practice to described practitioners. *Gifted Child Quarterly*, 50(2), 119-131.
- Grant, B. & Piechowski, M. (1999). Theories and the good: toward child-centered gifted education. *Gifted Child Quarterly*, 43(1), 4-12
- Green, J., Camilli, G. and Elmore, P. (2006). *Handbook of complementary methods in education research*. Mahwah, N.J.: Lawrence Erlbaum Associates.
- Greene, J.C., Caracelli, V.J., & Graham, W.F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 11, 255-274.

- Greene, J., Lincoln, Y.S., Mathison, S., Mertens, D.M., & Ryan, K. (1998). Advantages and challenges of using inclusive evaluation approaches in evaluation practice. *American Journal of Evaluation, 19*, 101-122.
- Griffin, C. C., Winn, J. A., Otis-Wilborn, A., & Kilgore, K. L. (2003). New teacher induction in special education. Executive Summary. *Center on Personnel Studies in Special Education*, U. Florida.
- Guba, E.G. (1990). *The paradigm dialog*. Newbury Park, CA: Sage.
- Haddad, W. and Demsky, T. (1995). *Education policy-planning process, an applied framework*. Paris: UNESCO, Institut International de Planification de l'Education.
- Hallahan, D. P. & Kauffman, J. M., & Pullen, P. C. (2012). *Exceptional learners: An introduction to special education*. Boston, MA: Pearson Education.
- Hamdan Bin Rashid Al Maktoum Award for Distinguished Academic Performance (2015). [Online]. [Assessed 15<sup>th</sup> August 2015], available at [www.ha.ae](http://www.ha.ae)
- Hargrove, K. (1999). The gifts of the 20th century. *Gifted Child Today, 22*, 38-41.
- Heller, K.A. (2004). Identification of gifted and talented students. *Psychology Science, 46*, 302-323.
- Hertberg-Davis, H. (2008). A narrow escape: gifted students' perceptions of advanced placement and international baccalaureate programs. *Gifted Child Quarterly, 52*(3), 199-216.
- Hertberg-Davis, H. L., & Callahan, C. M. (2013). Introduction. In H. L. Hertberg-Davis & C. M. Callahan (Eds.), *Fundamentals of gifted education* (pp. 1–10). New York, NY: Routledge.
- Hertzog, N. (2003). Impact of gifted programs from the students' perspectives. *Gifted Child Quarterly, 47*, (2), 131-143.
- Hill-Anderson, B. (2008). *A K-12 gifted program evaluation and the Evaluator-District-University Gifted Program Evaluation Model*.
- Hill, N. and Taylor, L. (2004). Parental School Involvement and Children's Academic Achievement. Pragmatics and Issues. *Current Directions in Psychological Science, 13*(4), pp.161-164.
- Hill, N.E., Castellino, D.R., Lansford, J.E., Nowlin, P., & Dodge, K.A. (2004). Parent academic involvement as related to school behavior, achievement, and aspirations: demographic variations across adolescence. *Child Development, 75*, 1491-1509.

- Holland, R. (1999). Reflexivity. *Human Relations*, 52, 463-483.
- Holt, W. (2008). 'You could be doing brain surgery': gifted girls becoming teachers. *Gifted Child Quarterly*, 52(4), 313-325.
- Holtgreaves, T. (2004). Social desirability and self-reports: Testing models of socially desirable responding. *Personality and Social Psychology Bulletin*, 30, 161-17.
- Hong, E., Greene, M.T. and Higgins K. (2006). Instructional practices of teachers in general education classrooms and gifted resource rooms: development and validation of the instructional practice questionnaire. *Gifted Child Quarterly*, 50(2), 91-103.
- House, E.R., (1980). *Evaluating with validity*. Beverly Hills, CA: Sage.
- Hubbard, R., & Lindsay, R.M. (2008). Why p-values are not a useful measure of evidence in statistical significance testing. *Theory & Psychology*, 18, 69-88.
- Hudson, P., & Hudson, S. (2010). Mentor educators' understandings of mentoring preservice primary teachers. *The International Journal of Learning*, 17, 157-170.
- Hughes, C.E., & Murawski, W.A. (2001). Lessons from another field: applying coteaching strategies to gifted education. *Gifted Child Quarterly*, 45, 195-204.
- Ibrahim, T. (2008). *Meeting the needs of mathematically adolescent gifted students in mixed-ability classrooms in the private education sector of UAE: a case study*. Un-published Master's Thesis. The British University in Dubai
- Johnsen, S. K. (2006). New national standards for teachers of gifted and talented students. *Tempo*, 26, 26-31.
- Johnsen, S.K. (2012). NAGC Pre-K-Grade 12 gifted education programming standards. Prufrock Press Inc. Available at: <http://www.prufrock.com>
- Joint Committee on Standards for Educational Evaluation (1994). *The program evaluation standards: How to assess evaluations of educational programs*. Thousands Oaks, CA: Sage
- Kell, H. J., Lubinski, D., & Benbow, C. P. (2013). Who rises to the top? Early indicators. *Psychological Science*, 24, 648-659.
- Knowledge and Human Development Authority (KHDA). (2011)
- Kilgore, K., Griffin, C. C., Sindelar, P. T., & Webb, R. B. (2002). Restructuring for inclusion: Changing teaching practices (Part II). *Middle School Journal*, 33, 7-13.

- Kornhaber, M. (1999). Seeking strength: enhancing equity in gifted education: a framework for examining assessments drawing on the theory of multiple intelligences. *High Ability Studies*, 10(2), 143-161.
- Krueger, J. (2001). Null hypothesis significance testing: On the survival of a flawed method. *American Psychologist*, 56(1), pp.16-26.
- Lalwani, A. K., & Shavitt, S. (2006). What is the relation between cultural orientation and socially desirable responding? *Journal of Personality and Social Psychology*, 90, 165-178.
- Langley G.L. Nolan K.M. Nolan T.W. Norman C.L. Provost L.P (2009). *The improvement guide: a practical approach to enhancing organizational performance* (2<sup>nd</sup> ed.). Jossey Bass, San Francisco.
- Le Sueur, E. (2002). Making the optimal match: Meeting the needs of gifted students. *New Zealand Principal*, 17(1), 16-18.
- Leech N.L. and Onwuegbuzie A.J. (2007). An array of qualitative data analysis tools: a call for data analysis triangulation. *School Psychology Quarterly*, 22(4), 557-584.
- Leigh, D., Watkins, R., Platt, W. A., & Kaufman, R. (2000). Alternative models of needs assessment: Selecting the right one for your organization. *Human Resource Development Quarterly*, 11(1), 87-93.
- Lincoln, Y.S., & Guba, E.G. (1985). *Naturalistic Inquiry*. Beverly Hills, CA: Sage
- Lingard, L., Albert, M. and Levinson, W., (2008). Grounded theory, mixed methods, and action research. *Bmj*, 337(aug07\_3), pp.337-461. [Online]. [Assessed 10th February 2015], available at <http://www.bmj.com/content/bmj/337/7667/Practice.full.pdf>
- Lopez, M.E., Kreider, H., & Caspe, M. (2005). Co-constructing family involvement. *The Evaluation Exchange*, 10, 2-3.
- Lubinski, D., Webb, R. M., Morelock, M. J., & Benbow, C. P. (2001). Top 1 in 10,000: A 10 year follow-up of the profoundly gifted. *Journal of Applied Psychology*, 4, 718-729.
- Magiera, K. (2005). Co-teaching in middle school classrooms under routine conditions: does the instructional experience differ for students with disabilities in co-taught and solo-taught classes? *Learning Disabilities Research & Practice*, 20, 79-85.
- Marshall, G. & Rossman, C. (2011). *Designing Qualitative Research*. 5<sup>th</sup> ed. Thousand Oaks, CA, Sage Publications.

- McAlpine, D. (2004). What do we mean by gifted and talented?. In D. McAlpine & R. Moltzen (Eds.), *Gifted and talented: New Zealand perspectives* (2nd ed., pp. 33-66). Palmerston North, New Zealand: Kanuka Grove Press.
- McGlenn-Nelson, K. (2005). Looking Outward: Exploring the Intersection of Sociocultural Theory and Gifted Education. *The journal of Secondary Gifted Education*, (1), 48-55.
- McMillan J.H. and Schumacher S. (2010). *Research in Education; Evidence-based inquiry*. 7<sup>th</sup> edition . pearson education inc. new jersey
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. (3rd ed). San Francisco, CA: Jossey-Bass.
- Merry, M.S., (2008). Educational Justice and the Gifted, *Theory and Research in Education* (6) 1: 47-70
- Mertens, D.M. (2015). *Research and evaluation in education and psychology: integrating diversity with quantitative, qualitative, and mixed methods* (4<sup>th</sup> ed.) Thousand Oaks, CA: Sage.
- Mertens, D.M. and Mclaughlin, J.A. (2004). *Research and Evaluation Methods in Special Education*. California:Crown Prince.
- Miller, E. (2005). Studying the meaning of giftedness: inspiration from the field of cognitive psychology. *Roepers Review*, 27(3), 172.
- Miller, P. H. (2007). *Theories of developmental psychology*. New York, NY: Worth Publishers.
- Ministry of Education (MoE) Development plan 2015 – 2021. [online].[Accessed 3<sup>rd</sup> March 2012]. Available at: [www.moe.gov.ae](http://www.moe.gov.ae)
- Ministry of Education (MoE) Strategy plan 2010 – 2020. [online].[Accessed 3<sup>rd</sup> March 2012]. Available at: [www.moe.gov.ae](http://www.moe.gov.ae)
- Ministry of Education (MoE), (2014). Gifted initiatives. [Online]. [Assessed 11 June 2014], available at <https://www.moe.gov.ae/Arabic/pages/GiftedAlvaiqon.aspx>
- Ministry of Education (MOE). (2010). School for All: General rules for the provision of special education programs and services (Public & Private Schools) [online]. [Accessed 3<sup>rd</sup> March 2012]. Available at: <http://www.moe.gov.ae/English/Documents/Rules/SNrulesEn.pdf>
- Ministry of Education Research and Studies Department. (2011). Ministry of Education in figures. [online]. [Accessed at 3<sup>rd</sup> March 2012]. Available at: <http://www.moe.gov.ae/Arabic/Docs/MOE%20Book.pdf>

- Ministry of Social Affairs (MSA). (2006). Federal Law no 29 of 2006 in respect of the rights of people with special needs [online].UAE: Abu Dhabi. [online]. [Accessed 3<sup>rd</sup> March 2012]. Available at: <http://www.msa.gov.ae/MSA/EN/pages/Rules.aspx>
- Ministry of Social Affairs, (2009). Federal Law No 14 of 2009 on the Rights of People with Special Needs. UAE: Abu Dhabi. [Accessed 4<sup>th</sup> April 2013]. Available at: <http://www.msa.gov.ae/MSA/EN/pages/Rules.aspx> .
- Moltzen, R. (2004). Characteristics of gifted children. . In D. McAlpine & R. Moltzen (Eds.) *Gifted and talented: New Zealand perspectives* (2nd ed., 67-92). Palmerston North, New Zealand: Kanuka Grove Press.
- Morgan, D. L. (2007). Paradigms lost and pragmatism regained. Methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research, 1*, 48 -76.
- Morse, J.M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research, 40*(2), 120–123.
- Muijs, D. (2006). Measuring teacher effectiveness: Some methodological reflections. *Educational Research and Evaluation, 12*(1),53-74.
- Murawski, W. (2009). Response to intervention, collaboration, and co-teaching: a logical combination for successful systemic change. *Preventing School Failure, 53*, 267-277.
- Narcisse, S. J. (2007). Local and global capacity building for a sustainable school community partnership: Implications for policy and practice
- National Association for Gifted Children (NAGC). (2008). Common gifted education myths. [online].[Accessed 23<sup>rd</sup> May 2013]. Available at: <http://www.nagc.org/commonmyths.aspx>
- National Association for Gifted Children (NAGC). (2010). Pre-K-Grade 12 Gifted Programming Standards. [online].[Accessed 22<sup>nd</sup> October 2014]. Available at: <https://www.nagc.org/resources-publications/resources/national-standards-gifted-and-talented-education/pre-k-grade-12#sthash.mRYP1x32.dpuf>
- National Association for Gifted Children. (NAGC). (2011). Redefining giftedness for a new century: Shifting the paradigm. Position Paper. <https://www.nqa.gov.ae/ar/pages/home.aspx>. [online].[Accessed 30<sup>th</sup> November 2013]. Available at:

<http://www.nagc.org/sites/default/files/Position%20Statement/Redefining%20Giftedness%20for%20a%20New%20Century.pdf>.

- Nevo, B. (1994). Definitions, ideologies, and hypotheses in gifted education. *Gifted Child Quarterly* :38(4), 184-186.
- Nickerson, R.S. (2000). Null hypothesis significance testing: a review of an old and continuing controversy. *Psychological Methods*, 5, 241-301.
- National Qualification Authority (NQA). (2013). [online].[Accessed 1<sup>st</sup> December 2013]. Available at: <https://www.nqa.gov.ae/ar/pages/home.aspx>
- Onwuegbuzie, A.J., and Teddlie, C. (2003). A framework for analysing data in mixed methods research. In: A. Tashakkori & C.Teddlie (Eds.) *Handbook of Mixed Methods in Social and Behavioral Research*. Chapter 13, 351-384.
- Organization for Economic Cooperation and Development (2008). Ten steps to equity in education. Policy brief. [online].[Accessed 18<sup>th</sup> nov 2013]. Available at: <http://www.oecd.org/edu/school/39989494.pdf>
- Orlitzky, M. (2012). How can significance tests be deinstitutionalized? *Organizational Research Methods*, 15, 199-228.
- Page, A. (2006). Three models for understanding gifted education. *Kairaranga*, 7, 11-15.
- Park, G., Lubinski, D., & Benbow, C. P. (2007) Contrasting intellectual patterns predict creativity in the arts and sciences: Tracking intellectually precocious youth over 25 years. *Psychological Science*, 18, 948–995.
- Parker, M.R., Jordan, K.R., Kirk E.R., Aspiranti, K.B. and Bain, S.K. (2010). Publication in Four Gifted Education Journals from 2001 to 2006: An Analysis of Article Types and Authorship Characteristics. *Roeper Review*, 32, 207-216.
- Patton, M. Q. (2002). *Qualitative evaluation and research methods* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Patton, M.Q. (2008) *Utilization-Focused Evaluation*. Thousand Oaks, CA: Sage.
- Paulhus, D.L. (1991). Measurement and control of response bias. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.) *Measures of Personality and Social Psychological Attitudes*. Volume 1, Chapter 2, 17-60.San Diego, CA: Academic Press.
- Pellegrino, J. W., Chudowsky, N., & Glaser, R. (2001). *Knowing what students know: The science and design of educational assessment*. Washington DC: National Academies Press.

- Pereira, N., Peters, S., & Gentry, M. (2010). The My Class Activities instrument as used in Saturday enrichment program evaluation. *Journal of Advanced Academics*, 21, 568–593.
- Perkins, S. (1985). Policy issues in gifted education: are they too restrictive. *NASSP Bulletin*, 69(482), 12-16.
- Pfeiffer, S. (2002). Identifying gifted and talented students: recurring issues and promising solutions. *Journal of Applied School Psychology*, 12(1), 31-50
- Plucker J.A. (2001). Looking Back, Looking Around, Looking Forward: The Impact of Intelligence Theories on Gifted Education. *Roeper Review*, 23(3), 124-25.
- Rahmanian, S. (2008). *Gifted students intrinsic and extrinsic motivation in U.A.E government schools*. Un-published Master's Thesis. The British University in Dubai.
- Rawls, J. (1971). *A theory of justice*. Cambridge, MA: Belknap
- Reis, S.M. (2009). A presentation on research-based best practices in the field: research that supports the need for and benefits of gifted education. *The Fairfax County School Board*. [online]. June 8<sup>th</sup> 2009. [assessed 5<sup>th</sup> April 2013], available at [http://www.boarddocs.com/vsba/fairfax/Board.nsf/legacy-content/8678S322A8DB/\\$FILE/NAGC%20Research%20Studies2.pdf](http://www.boarddocs.com/vsba/fairfax/Board.nsf/legacy-content/8678S322A8DB/$FILE/NAGC%20Research%20Studies2.pdf)
- Renzulli, J. (1998). The three ring conception of giftedness. In S. Baum, S. Reis & L. Maxfield (Eds.), *Nurturing the gifts and talents of primary grade students*. Mansfield Centre, CT: Creative Learning Press.
- Renzulli, J. S. (1977). *The Enrichment Triad Model: A Guide for Developing Defensible Programs for the Gifted and Talented*: Mansfield Center, CT: Creative Learning Press.
- Renzulli, J.S., & Reis, S.M. (1985). *The schoolwide enrichment model: a comprehensive plan for educational excellence*. Mansfield Center, CT: Creative Learning Press.
- Renzulli, J. S. (1986). The three ring conception of giftedness: A developmental model for creative productivity. In R. J. Sternberg & J. Davidson (Eds.), *Conceptions of giftedness*. New York: Cambridge University Press.
- Renzulli, J. S., & Reis, S. M. (1993). Using the schoolwide enrichment triad model to provide programs for underserved gifted and talented students. In B. Wallace and H. B. Adams (Eds.), *Worldwide perspectives on the gifted disadvantaged*, 216-236. Great Britain: A.B. Academic Publishers.

- Roberts, J. (1999). The top 10 events creating gifted education for the new century. *Gifted Child Today*, 21, 53-56.
- Robson, C. (2002) *Real World Research: A resource for social scientists and practitioner- researchers* . 2<sup>nd</sup> edition. Blackwell publishing.
- Rogers, K. (2007). Lessons Learned About Educating the Gifted and Talented: A Synthesis of the Research on Educational Practice. *Gifted Child Quarterly*, 51(4), 382-396. [online].[Accessed 1<sup>st</sup> January 2016]. Available at: <http://www.k12.wa.us/HighlyCapable/Workgroup/pubdocs/EducatingGiftedandTalented-Rogers.pdf>
- Sanders, M.G. (2003). Community involvement in schools. *Education & Urban society*, 35, 161-181.
- Sarouphim, K. M. (2010). A Model for the Education of Gifted Learners in Lebanon. *International Journal of Special Education*, 25(1), 71-79.
- Saunders, M., Lewis, P., & Thornhill, A. (2010). *Research methods for business students*. (5<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson/Prentice Hall.
- Sayler, M. (1999). American gifted education at the millennium: 150 years of experience. *Understanding Our Gifted*, 12, 11-15.
- Schlichter, C. and Brown, V. (1985). Application of the Renzulli Model for the education of the gifted and talented to other categories of special education. *Remedial and Special Education*, 6(6), 49-55.
- Shepard, L.A. (2000). The role of assessment in a learning culture. *Educational Researcher*, 29, 4-14.
- Mohammed bin Rashid. [online].[Accessed 5th May 2013]. Available at: [www.sheikhmohammed.co.ae/english/index.asp](http://www.sheikhmohammed.co.ae/english/index.asp)
- Shiyab, S.M. (2006). *A textbook of translation. Theoretical and practical implications*. Antwerp: Garant Publishers.
- Sileo, J. M., & van Garderen, D. (2010). Creating optimal opportunities to learn mathematics: Blending co-teaching structures with research-based practices. *Teaching Exceptional Children*, 42, 14-21
- Simon, B. S., Epstein, J. L. (2001). School, family, and community partnerships. In D. H. Michael (Ed.), *Promising practices for family involvement in schools*, 1-24. Greenwich, Connecticut: Information Age Publishing.
- Singleton, R.A., & Straits, B.C. (2005). *Approaches to social research* (4<sup>th</sup> ed.). New York, NY: Oxford University Press.

- Smith, P.B. (2004). Acquiescent response bias as an aspect of cultural communication style, *Journal of Cross-Cultural Psychology*, 35, 50-61.
- Social Research Association (2003) [online]. [Accessed 17 May 2013]. Available at: <http://www.the-sra.org.uk/documents/pdfs/ethics03.pdf>
- Stake, Robert E. (2000). Case studies. In Norman K. Denzin & Yvonna S. Lincoln (Eds.), *Handbook of qualitative research*, 435-453. Thousand Oaks: Sage.
- Sternberg, R. and Grigorenko, E. (2002). The theory of successful intelligences as a basic for gifted education. *Gifted Child Quarterly*, 46(4), 265-277.
- Sternberg, R.J. and Davidson, J.E (1982). The mind of the puzzler. *Psychology Today*, 16(June), 37-44.
- Sternberg, R.J. and Davidson, J.E. (1983). Insight in the gifted. *Educational Psychologist*, 18, 51-57.
- Sternberg, R.J., & Davidson, J.E. (2005). *Conceptions of giftedness*. New York, NY: Cambridge University Press.
- Sternberg, R. J. (1988). Mental self-government: A theory of intellectual styles and their development. *Human Development*, 31, 197-224.
- Stufflebeam, D.L, & Shinkfield, A.J. (2007). *Evaluation theory: models and applications*. San Francisco, CA: Jossey-Bass.
- Subhi-Yamin, T. (1997). Who is Gifted? A computerized identification procedure, *High Ability Studies*, 8 (2), 189-211.
- Subotnik, R. F., Edmiston, A. M., Cook, L., & Ross, M. D. (2010). Mentoring for talent development, creativity, social skills, and insider knowledge: The APA Catalyst Program. *Journal of Advanced Academics*, 21, 714–739.
- Stiles, W.B. (2015). Theory Building, Enriching, and Fact Gathering: Alternative Purposes of Psychotherapy Research. In *Psychotherapy Research*, 159-179. Springer Vienna.
- Tashakkori, A. & Teddlie, C. (2003.). *Handbook of Mixed Methods in Social and Behavioral Research*, 351-384. Thousand Oaks, CA: Sage.
- Tomlinson, C. (2001). *How to differentiate instruction in mixed-ability classrooms*. Alexandria, Va.: Association for Supervision and Curriculum Development.
- Thomas, J. (2000). First year findings: NCSSSMST longitudinal study. *NCSSSMST Journal*, 5(2), 4–5

- Thompson, L. (2011). *Magnet schools: Offering distinctive learning opportunities*. *Duke TIP Digest of Gifted Research*. Retrieved from: <https://tip.duke.edu/node/790>
- Trafimow, D., & Marks, M. (2015). Publishing models and article dates explained. *Basic and Applied Social Psychology*, 37, 1-2.
- Tukey, J.W. (1977). *Exploratory data analysis*. Reading, MA: Addison-Wesley.
- Tukey, J.W. (1980). We need both exploratory and confirmatory. *The American Statistician* 34, 23–25.
- UAE Cabinet. (2010). Constitution of UAE. [online]. [Accessed 27 March 2013]. Available at: <http://www.uaecabinet.ae/English/UAEGovernment/Pages/ConstitutionOfUAE.aspx>
- UAE Cabinet. (2014). [online]. [Accessed 10 February 2014]. Available at: [www.uaecabinet.ae](http://www.uaecabinet.ae)
- UAE Cabinet. (2015). [online]. [Accessed 20 December 2015]. Available at: [www.uaecabinet.ae](http://www.uaecabinet.ae)
- UAE National Bureau of Statistics. (2014). Education 2014/2015. [online]. [Accessed 22 November 2014]. Available at: <http://www.uaestatistics.gov.ae/EnglishHome/LatestReportsDetailEnglish/tabid/106/Default.aspx?ItemId=2447>
- UAE Vision 2021. (2015). United in ambition and determination. [online]. [Accessed 13 May 2015]. Available at: <http://www.vision2021.ae/sites/default/files/uae-vision2021-brochure-english.pdf>
- United Nations Educational Social and Cultural Organization (UNESCO). (1994). *Salamanca Statement and Framework for Action on Special Needs Education*.
- United Nations Educational Social and Cultural Organization (UNESCO). (2000). *Dakar Framework for Action on Education for All*.
- United Nations (UN). (2006). Convention on the Rights of Persons with Disabilities. [online]. [Accessed 20 November 2014]. Available at: <http://www.un.org/disabilities/convention/conventionfull.shtml>
- United Nations Educational Social and Cultural Organization (UNESCO). (2009). Policy guidelines on inclusion in education. [online]. [Accessed 18 October 2013]. Available at: <http://unesdoc.unesco.org/images/0017/001778/177849e.pdf>
- United Nations Educational Social and Cultural Organization (UNESCO). (2011).

- World data on education: United Arab Emirates. [online]. [Accessed 13 October 2013]. Available at:  
[http://www.ibe.unesco.org/fileadmin/user\\_upload/Publications/WDE/2010/pdf-versions/United\\_Arab\\_Emirates.pdf](http://www.ibe.unesco.org/fileadmin/user_upload/Publications/WDE/2010/pdf-versions/United_Arab_Emirates.pdf)
- Vanderbrook, C. M. (2006). Intellectually gifted females and their perspectives of lived experience in the AP and IB Programmes . *Journal of Secondary Gifted Education*, 17(3), 133-148.
- VanTassel-Baska, j. (2013). The world of cross-culture research: insight for gifted education. *Journal for the education of the gifted*, 36(1), 6-18.
- VanTassel-Baska, J. and Johnsen, S. (2007). Teacher Education Standards for the Field of Gifted Education: A Vision of Coherence for Personnel Preparation in the 21st Century. *Gifted Child Quarterly*, 51(2), 182-205.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wagenmakers, E.J. (2007). A practical solution to the pervasive problems of p-values. *Psychonomic Bulletin & Review*, 14, 779-804.
- Wallace, P. (2009). Distance learning for gifted students: Outcomes for elementary, middle, and high school students. *Journal for the Education of the Gifted*, 32, 295–320.
- Westberg, K. L. (1999). What happens to young, creative producers? NAGC: *Creativity and Curriculum Division Newsletter*, 3, 13–16.
- Willis, E. (1998). *Sociological quest: an introduction to the study of social life*. Baltimore, MD: Brookes Publishing.
- World bank (2013). [online]. [Accessed 11 January 2013]. Available at: [worldbank.org](http://worldbank.org)
- Yang, Y., Gentry, M., & Choi, Y. O. (2012). Gifted students' perceptions of the regular classes and pull-out programs in South Korea. *Journal of Advanced Academics*, 23, 270–287.
- Yin, R. K. (2012). *Applications of Case Study Research*. 3<sup>rd</sup> ed. Thousand Oaks:Sage.
- Yoshikawa H. ,Weisner T.S. , Kalil A. and Way N. (2008). Mixing Qualitative and Quantitative Research in Developmental Science: Uses and Methodological Choices. *Developmental Psychology*, 44(2), 344-354.
- Ziegler, A, & Heller, A. (2000). *Conceptions of giftedness from a meta-theoretical*
- Ziegler, A. & Perleth, C. (1997). Will Sisyphus be able to roll the stone up the mountain? A critical examination of the status of diagnosis and promotion of the

gifted in occupational education set against the Munich Talent Model.  
*Psychologie in Erziehung und Unterricht*, 44, 152-163.

Zilak, S.T., & McCloskey D.N. (2008). *The cult of statistical significance: how the standard error costs us jobs, justice, and lives*. Michigan: University of Michigan

