Examining the Implementation of Gifted and Talented Pilot Program in ADEK's Public Schools

دراسة حول تنفيذ البرنامج التجريبي للموهوبين والمتفوقين في المدارس العامة التابعة

لدائرة التعليم والمعرفة

by

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Abstract

Gifted and talented education newly exists within ADEK's public schools; hence, this study was the first to examine the implementation of the pilot program at three public schools in Cycle 1, Cycle 2 and Cycle 3. The main research questions of the study were to examine the effectiveness of the implementation and the accuracy of outcomes of the program, over several stakeholders, and to check their compliance with NAGC standards. A sequential explanatory mixed methods design was adopted. The methods utilized to collect the data included questionnaire survey, interviews with gifted and talented teachers, social workers, special education teachers, academic vise principal and the head of faculty, in addition to a focus group with grade 4, 5 & 11 gifted and talented students in two schools. Classroom observations and a review of official documents were also conducted. The conclusions were that different deficiencies in the implementation of all program components have arisen from findings, and a room for intensive improvement is a must, especially during the initial level of the program implementation, as a testing phase, before full implementation in all public schools. A set of recommendations are presented to better serve the gifted and talented students of UAE in the future.

Keywords: Gifted Education, Talented Education, Public Schools, Department of Education and Knowledge (ADEK), National Association for Gifted Children (NAGC) Programming Standards.

Abstract (Arabic)

يعد تعليم الموهوبين والمتفوقين في المدارس العامة في دائرة التعليم والمعرفة في أبوظبي حديث العهد،لذلك كانت هذه الدراسة هي الأولى التي تختبر تنفيذ البرنامج التجريبي في ثلاث مدارس حكومية في الحلقة الأولى ،والحلقة الثانية ،والحلقة الثالثة في منطقة العين التابعة لإمارة أبوظبي. كانت الأسئلة البحثية الرئيسية تدور حول دراسة فعالية التنفيذ ودقة نتائج البرنامج، بناءً على عدة جهات متعلقة بالبرنامج، والتحقق من امتثالهم لمعايير الرابطة الوطنية للأطفال الموهوبين. اعتمدت الدراسة معاييربرنامج الموهوبين التابعة للرابطة الوطنية للأطفال الموهوبين (NAGC) كإطار عمل. تم استخدام تصميم تفسيري متعدد الأساليب وشملت الطرق المستخدمة لجمع البيانات :استبيان ومقابلات مع معلمي التلاميذ الموهوبين، والاختصاصيين الاجتماعيين، ومعلمي التربية الخاصة، ونائب المديرالأكاديمي، ورئيس هيئة التدريس، بالإضافة إلى مجموعة التركيز مع طلاب الصفوف الرابع والخامس والحادي عشر في مدرستين. كما تم مشاهدة بعض الصفوف ومراجعة الوثائق الرسمية. وكانت الاستنتاجات تشير إلى بعض النواقص في تنفيذ جميع مكونات البرنامج، وأن التحسين أمر لا بد منه، لا سيما خلال المرحلة الأولى من تنفيذ البرنامج، كمرحلة اختبار ، قبل التنفيذ الكامل في جميع المدارس العامة. أخيراً، تم تقديم مجموعة من التوصيات لتقديم خدمة أفضل للطلاب الموهوبين في دولة الإمارات العربية المتحدة في المستقبل.

الكلمات الرئيسية: تعليم الموهوبين، المدارس العامة ، دائرة التعليم والمعرفة (ADEK)، معاييربرامج الموهوبين التابعة للجمعية الوطنية للأطفال الموهوبين (NAGC)

Dedication

I would like to dedicate this dissertation to my loving husband and my family who have given me all the support I need to reach my goal.

Acknowledgement

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The sequential explanatory strategy was adopted in this research "to explain and interpret quantitative results by collecting and analyzing follow-up qualitative data" (Creswell & Creswell 2017, p.211), because the researcher started her study by displaying the survey , then and based upon the earned results which required

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Chapter 1. Introduction

1.1. Introduction of the Chapter

Our world, during the third millennium, faces tremendous challenges and obstacles in almost every domain, whether it was economic, social, political, cultural, environmental, or religious, in a continuous and fast pace. Such changes are impossible to be overlooked by governments that passionately strive to present creative and innovative solutions and alternatives to facilitate the human life and turn their environment to a better, safer place for living. Problems such as global warming, famines, worldwide diseases, and conflicts over water resources, are some examples of serious issues that need creative and intelligence people who are capable to produce and introduce smart and permanent solutions to overcome such problems.

On the other hand, this competitive world has generated the motivation of excelling and being "number one". Thus, governments are in a constant battle against time to achieve advanced ranks in various fields, such as economics, trade, technology, science and various industries. Therefore, the growing demand for innovative products and merchandise leads politicians and decision makers to the support and promote valuable, gifted and talented individuals in every nation, to utilize their potential "to create a bright future in our communities, states, and nation. Inventors, innovators, entrepreneurs, scholars, artists, and leaders are needed to solve local and global problems" (Roberts 2008, p.501).

Gifted and talented citizens are national treasures, demonstrating a crucial and substantial role in the development, flourishment, and prosperity of a country. Researchers emphasize on the economic benefits that will be gained from the gifted and talented educated, despite the shortage of statistics on a quantifiable significance of gifted education (Clinkenbeard 2011). Shavinina (2012, p. 65) indicated that:

> *The growing-up gifted and talented will make great scientific discoveries, technological inventions, or produce ideas with money-making potential, leading to the creation of new ventures and thus increasing employment and economic prosperity. Scientific talent and entrepreneurial giftedness are cases in point. Even*

achievements of those gifted and talented individuals which do not look like to be directly associated with economy, are actually related to it. For example, scientific discoveries that save lives of many people significantly enhance the level of the well-being of any society even if they do not result in immediate or great financial outcomes. Similarly, amazing musical symphonies enrich inner worlds of people, inspire and motivate them to do their best and thus are also contributing to the well-being of countries. Therefore, any kind of talent contributes to the economic prosperity of human beings.

1.2.   Background of the Study

Those intellectually or creatively gifted possess unique, charming, and distinguished traits and characteristics that help them draggle and overcome all difficulties and barriers they may face, which leads to their superiority and accomplishment in their career and personal lives. This would help create positive impact over the society as well. Davis & Rimm (2004) have indicated some of the characteristics that identify gifted individuals as follows; brilliance, intuition, logic and reasonable thinking, originality, risk taking, creative problem solving and high motivation, as well as demonstrating self-confidence, independence, inquisitiveness, elevated ethical thinking, empathy, curiosity, persistence, a sense of humor, and openness to new ideas. Shavinina (2012) confirmed the critical role of the previously mentioned characteristics of the "talented entrepreneurs" in the excellence of California's "Silicon Valley", which is considered to be one of the most successful compound companies. The compound represents the location of very popular technology companies that can't be replicated in any other countries, despite the depth of efforts put. Those talents create a democratic atmosphere, rewarding inventors and innovators, diminishing barriers that prevent individuals from collaboration and communication in and overrun the company boundaries that in turn raise the speed of exchanging the information. Moreover, they are open to everything newly produced or developed combined with risk taking, accepting failures due to their understanding that with higher risks come high returns, possess high conjecture and surmise, have the passion for not only new market, but then again furthermore extended to produce and present new designed products in a brief time which require long working hours without expressing fatigue or boredom. Overall, such characteristics of successful and

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talented engineers and gifted entrepreneurs affirm their special contribution to their country in many different domains, through outstanding performance.

Substantial contributions towards societies don't emerge overnight, they are the product of gifted and talented individuals who are unlike "not only in size, shape, and color, but in cognitive and language abilities, interests, learning styles, motivation and energy levels, personalities, mental health and self-concept, habits and behaviors, background and experience, and any other mental, physical, or experiential characteristic that one cares to look for" (Davis and Rimm, 2004, p. 32).

Unfortunately, despite early interests and efforts to develop the research and approaches to dealing with the education of gifted individuals in various countries all over the world, this topic is still neglected, not receiving appropriate services and provisions in a time where everyone claims that "no child is left behind" and the call for "equity" as well as "excellence" and "quality" are an ongoing process and are the most important priorities in era of educational reform. It had been stated that "over half the population of gifted students do not match their tested ability with comparable achievement in school" (National Commission on Excellence in Education 1983, p. 10).

Millions of advanced students are deprived of receiving proper education through specially organized programs, conducted with the support of professional educators because of common myths. To mention some, many people believe that gifted children can reach their full potential on their own, needing no guidance on ability development. Teachers should be able to serve all types of students, serving their diverse needs in classrooms, with the belief that all learners are gifted. Giving average, and below average, students the urge to always perceive gifted students as a role model, makes achieving students feel smarter, leaving regular students behind, with no sufficient efforts of development. Thus, gifted education necessitates a multitude of resources and research, which casts a lot (National Association for Gifted Children, NAGC).

Additionally, many gifted individuals are deprived from proper education due to the controversy among educators, politicians, parents, and legislators about the excellence that sets the individual different from others, thus lifting up their potential to the fullest, vs. equity, which looks at individuals from the same perspective so they will receive equal treatment, instruction and opportunities, regardless of their differences, which in turn leads to inequity for higher potential students (Benbow & Stanley 1996).

Furthermore, the obsession of the famous saying "No child left behind" also reflects negatively on teaching the gifted, Brown & Wishney (2017, p.24) summarize this by saying that "the needs of students who must be brought up to standard have been so politicized that the concept of exceptionality has come to exclude the exceptional needs of the highly able student".

If all of the previously mentioned barriers were not tackled, gifted and talented individuals would be threatened to lose their ability of facing the vulnerabilities of highly gifted children, especially in their critical school years.

Professionals, specialists, psychologist, and policy makers must impose legislations that guarantee gifted and talented rights of receiving a well-supportive system that:

Include appropriate educational programs; systematic affective education including social skills training and self-concept development; planned efforts in career counseling, academic counseling, and personal counseling; and supportive adults to act as role models, provide guidance, and offer understanding. (Roedell 1984, p. 130).

Roedell was considered as an effective contributor on the general education through: being a pilot experimental program established to enhance general education; and improving the quality of general education when seeking for excellence in different content or subject areas, using unconventional methods in identifying the gifted beyond the standardized tests, and implementing different modes of instruction such

as compacting, learning based inquiry, and curriculum differentiated (Gallagher 2004).

Furthermore, teachers' contribution also helps them become more professional and skillful through direct contact with gifted and talented and consequently benefit the regular or average and under average students (Davis & Rimm 2004).

Education of the gifted has recently received attention from many countries all over the world. The Arab world, for instance, took part of this important field. Referring to Freeman (2002), Arabic gifted children are recognized in almost all countries, via several diagnostic tests, such as standardized intelligence tests, creativity and ability tests, as well as academic achievement. Different programs are provided for this population that exhibit a specific form of acceleration when offering grade-skipping, advanced placement in particular subjects, some special classes, and grouping, adapting Renzulli's model, out-of- schools programs, and regional, national, and international competitions. Egypt and Jordan established schools for gifted and high achieving students. Freeman's (2002) final comment was about inadequate data or outcomes that can determine the effectiveness of such programs.

Gulf countries, and more specifically the UAE, are relatively new entrants in the domain of gifted education. Taking a close look to UAE's vision of 2021, the UAE aims to be one of the best countries in the world, through one major component in the national agenda that is innovation (UAE National Agenda and UAE Vision 2021). According to the national innovation strategy, innovation definition is: "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" (2015, p. 5). Thus, the ministry of education in UAE launched gifted and talented educational program in 2010, and Abu-Dhabi Department of Education and Knowledge (ADEK) followed the ministry's lead in 2016.

The newly established and promising program in ADEK needs to be evaluated regularly during its initial steps and stages, to determine the strengths and weaknesses of the program, and fill in the gaps, that in turn give the policy maker in ADEK room for quick improvement to fulfill the national goals and objectives. This demonstrates the main purpose of this current study since no research has been conducted on this area, due to the program's new introduction.

1.3. Purpose and Objectives of the Study

The main purpose of this study is to evaluate the effectiveness of the provision of gifted and talented program and to assess the services provided in ADEK's public schools, mainly grades 4 & 5, in cycle 1, grades 6 & 7 in cycle 2, and grade 10 & 11 in cycle 3, utilizing NAGC standards as a frame work. Another sub-purpose was due to the researcher's profession as a teacher at one of AL-AIN region public schools. Due to her interest in gifted and talented education, the school nominated her to be a gifted teacher, and fortunately, her school had been nominated in the school year 2017-2018 to participate in the gifted and talented pilot program to identify and serve gifted and talented youngsters, so this evaluation process guided the researcher and her current school for better implementation and proper services from analyzing results that had been extracted through different instruments

1.4. Research Questions

The objectives of this study were tackled by providing answers to the following research questions:

RQ1- To what extent is the gifted and talented program in ADEK's school being implemented, based on its proclaimed goals and outcomes?

RQ2- What are the relevant stakeholder's group perceptions about the effectiveness of the gifted and talented programs in ADEK public schools?

RQ3-   To what extent is there evidence that gifted and talented learners have become promoted achievement as a result of joining the program?

RQ4-   To what extend is the gifted and talented pilot program in ADEK's three cycles public schools meet the NAGC gifted programming standards"?

To answer those research questions, qualitative and quantitative approaches have been utilized by:

- Examining educators' perceptions through surveys.
- Examining staff through interviews conducted in schools.
- Conducting students' focus groups.
- Conducting classroom observations,
- Reviewing official documents, which were the methods utilized to collect data. Further details are provided in chapter 3.

1.5.   The Rationale

The rationale for the evaluation is makes an impact and be of contribution towards educational systems in the UAE, which will be of key impact over the economy. For this purpose, the NAGC standards shall be utilized as a framework, which will be more thoroughly discussed in Chapter 3, Methodology.

Although several researches have been previously conducted in affiliated schools to ministry of education in the past 17 years, this research will expand the opportunities for intensive investigation by other researchers in the gifted education field, as it has been updated.

1.6.   The Significance of the Study

This evaluation research determined, for the first time, the effectiveness of the programs and services that had been presented in public schools, relying on the National Association of Gifted Child Programming Standards, which are:

- Learning and Development

- Assessment

- Curriculum Planning and Instruction

- Learning Environment

- Programming

- Professional Development

Those outcomes were benchmarked against best practices, which were conducted and examined in the gifted education field, to uncover any gaps or challenges in the implementation process and to facilitate the improvement and development process of the gifted programs and services, if needed. Gathering and analyzing the collected data, especially those relevant to this pilot program, had not been generalized in all ADEK public schools and are still under examined. Thus, policy makers should take a proactive step to ensure that every individual in all public schools will receive the best provision of gifted education, which shall elevate and stretch their potential to the fullest, for the benefit of the nation.

Chapter 2. Literature Review

2.1. Introduction

Giftedness is an early profound and rooted concept in the history of humanity. Peoples all over the world, since early times, always sought for superiority and excellence in different aspects of life. People with such distinctive attributes and features were and still are earning communities' appreciation and respect and have always been considered as rescuers and saviors for their ability to overcome serious problems they may face and for their nature as a source of pride and glory for their nation. This chapter will discuss the history of giftedness, the essential theories in understanding and evaluating giftedness, in addition to the main players within the field of giftedness in the United Arab Emirates and the standards they follow in the implementation of the concept within the nation.

2.2. History of Giftedness

Contributions by several researchers on the area of gifted education in the contemporary history is still up-to-date, engraving and affecting the giftedness researches and studies through their theories, empirical researches, intelligence and achievement tests and publications. To mention some, some of the researchers who demonstrated high contribution, we can talk of:

- *Sir Francis Galton* (1822-1911), the cousin of Charles Darwin, who concluded that one's intelligence is referred to the natural selection and genetics according to his observation for prominent individuals whose family's history had strong evidence of distinction. However, he ignored the external conditions such as economic welfare, suitable atmospheres provided, and privileges in addition to the family history

- *Alfred Binet* (1857-1911), assisted by T.Simon , who had a significant contribution on emerging diagnostic intelligence tests that were developed and conducted initially to serve dull students by excluding them from the

normal classes to special ones, helping them receive more attention. Additionally, he came up with a new concept that compares a child's mental age with a child's physical age and then measuring the consistency between both

- *Lewis Terman* (1877–1956), the father of gifted education movement, whose most important achievements could be listed as:

1-The modification and Americanization on Binet-Simon test that became Stanford-Benit Intelligence Scale

2-His longitudinal studies on gifted children that revealed the importance of acceleration on gifted achievement, the invalidity of the myth related to the weakness, the instability, and the unattractiveness of gifted children and the degree of success of gifted men compared to their families' values and their parent's education. (Davis and Rimm 2004).

- *Hollingworth* (1886–1939), "Nurturant Mother" of gifted education, who focused on her research on highly gifted children. The noteworthy conclusions related to her studies on such children are the importance of early identification and nurturing by parents and schools for success (Swassing,1992). It had been stated that "Hollingsworth's efforts supporting gifted children and gifted education in the New York area included literally inventing strategies to identify, teach, and counsel gifted children" (Davis and Rimm 2004, p.7).

- *Guilford*, the psychologist of the 1950s, who advocated considering IQ score as a small indicator of mental ability and so the concept of giftedness changed accordingly to include different shapes of intellectual activity. (Swassing 1992)

In the twenty-first century, various shapes of attention had been taken by governments to those exceptional and their education. For instance, USA had passed legislation and allocated fund for gifted education. Canada's professionals and educators had shown more commitment to the gifted education. Some European

countries now allow grade skipping only because of it's costless. Other countries adopted competitions on different subjects, or had established special schools on art, music, or sport, or had focused on the differentiation of instruction in classrooms or left gifted deals with their gifts individually (Davis and Rimm, 2004).

2.3. Gifted Education in UAE

According to Albaili (2010), gifted education is a comparatively new domain in UAE. It had been initiated during the late 1980s; due to the higher focus back then on students with mental retardation or learning disabilities. Recently, in 2007, The Ministry of Education (MOE) consulted experts from German University of ULM to develop the national plan for gifted education. Later in 2009, this plan was reviewed, accessed, and modified by local professionals, before being formally mounted. The plan was constructed and developed based on four main pillars which are:

1-   The plan is built in correspondence with US National Association for Gifted Children (NAGC) programing standards
2-   The plan focuses on three kinds of giftedness:
- Intellectual giftedness in general
- Specific academic giftedness, specifically in mathematics and science
- Creativity
3-   The plan developers adapted the "Wisconsin Comprehensive Integrated Gifted Programming Model"
4-   The inclusion is a cornerstone in developing and implementing the gifted programs.

2.4. Gifted Education at Abu-Dhabi Department of Education and Knowledge (ADEK)

A quick review of ADEK's history is essential in this part in highlighting its full responsibilities on implementing the pilot program in Al-Ain public schools that is the main focus in this study. Ministry of Education was managing all public and

private sectors all over the UAE, but after the announcement of the Law No. 24 of 2005, the independent corporate body "Abu Dhabi Education Council" was established to handle the developmental process of the education in the Emirate of Abu-Dhabi, in correspondence to the national development objectives that seek for innovation in education. In 2010, the council took full responsibility on delivering education in Abu Dhabi, and therefore, started to administer all working staff and the financial affairs (International Bureau of Education 2010/2011). In 2017 and responding to a decree issued by the UAE president, ADEK changed to a government department named the Department of Education and Knowledge (ADEK) (Education Journal 2017).

In 2016, ADEK gifted and talented pilot program had been lunched in 9 certain schools for cycles 1, 2 & 3, in Abu Dhabi, Al-Ain , and Al Dafrah regions, under special conditions. On the next academic year of 2017, more schools (reaching 49) were invited to participate in this program and were provided with supporting material to start the official and unified gifted and talented program.

Regarding the special need policy within the gifted and talented hand book(ADEK 2017-18), the gifted and talented pilot program is delineated through clarifying the purpose of this program which is to implement international best practices in gifted and talented education, promote their roles in developing their country and stress on the importance of the program and show that without appropriate programs, talents will be vanished. In addition to clarifying the purpose, the handbook shows the "talent development approach" philosophy that consists of:

1- *The definition of gifted and talented learners*.
   ADEK's definition of gifted and talented learners is summed up as "those are students whose outstanding ability makes them capable of high performance. Their needs require specific consideration within mainstream educational program. Their current attainment and perceived potential places them significantly in advanced of majority of their peers in or more of the following areas:

- Intellectual Ability

- Subject-Specific Aptitude (in science or mathematics for instance)

- Social Maturity and Leadership

- Visual and Performing Arts (art, theatre and recitation, for example)

- Psychomotor Ability (like sports)"(ADEK 2013,p.16)

2- *The Identification Model:*

The identification process is started at grade 4 in Cycle 1, grade 6 in Cycle 2 and grade 10 in Cycle 3, and is based on five criteria:

- Achievement: The gifted student has to have 97 percent in a specific area in a standardized test (EMSA or PIPS) ,or 90 percent as an overall percentage in all areas in (EMSA or PIPS), or belongs to the top 10% on reading level (either in Arabic or English) according to an approved tool

- Characteristic Checklist containing 15 characteristics where student has to possess more than a half of, used by teacher has expertise in these characteristics and direct relation with him/her, as well as, parents, peers, or caregiver may participate in this process by fill in the nomination forms

- Screening Assessment: only used an authorized test, such as the IQ Test, and the cut-off score is 120 and above

- Final Classroom Grades Relative to Peers: The gifted must hold very high performance in last two academic years according to his/her final report card and constantly had been ranked in top 10%

- Product Assessment Rating: The student's product should obtain "very good" or "outstanding" in product rating form and evaluated by specialist. These identification criteria, student has to meet at least 3 of them.

Regarding the policy makers, schools hold big responsibilities in this program by:

- developing goals and intended outcomes for gifted aligned with schools' improvement planning process (SIP)

- identifying G/T students through the stated procedures

- supporting the gifted through developing advanced learning plan

- providing assortment programming
- developing teachers professionally with building suitable networking opportunities
- collaborating with the community and parents
- tracking students' progression through for example EMSA, PIPS, student grades, Irtiqa'a inspection results, teacher evaluation results, and School leader evaluation results
- evaluating the program regarding to its stated goals and outcomes.

Furthermore, ADEK is responsible for establishing an online learning/network space provided to G/T students in the school building, to ensure that all served students within the program are receiving adequate and empowered programming by robust and durable network bunch of employees. Additionally, ADEK will be provide schools with different resources, training materials, webpages, and research articles on various topics, as well as face to face networking opportunities to exchange best practices on gifted education. Teachers also will receive training from ADEK P-12 Gifted & Talented Program Managers and their school, to extend their experience in this domain to meet students' needs emotionally, socially, and academically. Moreover, teachers will also get enrichment units as a model from ADEK in cooperation with UAE University, which are aligned with ADEK's curriculum to enhance the utilization of research-based, high level thinking strategies.

Two foundational theories have aroused, "The Differentiated Model of Giftedness and Talented (DMGT)" & "The Multiple Intelligence theory". Those theories are the two main theories that ADEK philosophy of giftedness and talent is based on, according to Gifted/Talented Pilot Program Handbook (2017).

2.4.1. The Differentiated Model of Giftedness and Talented (DMGT)

The DMGT model had been manifested in responding to the urgent necessity for a clear distinction in the concepts of the two main basic terms in gifted education the

"giftedness" and the "talent", due to the chaos in utilizing these concepts by many researchers who used both as a synonymous, where they are not (Gagné, 2000). Gagné (2000) designed his theory (DMGT) based on two trios; the Talent Development Trio and the Supporting Cast Trio.

The Talent Development Trio (G, T, D) (Gagne, 2013) consists of:

1- Gifts which include two categories; mental abilities and physical abilities
2- Talent which embrace nine sub-components, six related to personalities and correlated to the world occupations (RIASEC: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) and the other three are Academia, Sports, and Games
3- Talent development process which is represented by three sub-elements; activities, investment and progress

The Supporting Cast Trio (I, E, C) (Gagne,2010) contains of:

1- Intrapersonal Catalysts (traits ,and goal management)
2- Environmental Catalysts (milieu , individuals, and provisions)
3- The Chance Factor

Gagné, in this model, adequately explained how the giftedness that "designates the possession and use of untrained and spontaneously expressed outstanding natural abilities or aptitudes (called gifts), in at least one ability domain, to a degree that places an individual at least among the top 10% of age peers", in the human being life, especially in childhood, puberty, and maturity, that gradually transforms to a talent that "designates the outstanding mastery of systematically developed competencies (knowledge and skills) in at least one field of human activity to a degree that places an individual at least among the top 10% of 'learning peers'", under the external and internal factors or stimulants umbrella, that impact in varying degrees on systematic developmental processes that people encounter in their life span (Gagné,, 2000, p.1).

2.4.2. The Multiple Intelligence Theory (MI)

The importance of Gardener 's theory (MI) is its incorporation within schools' curriculum, and its role in affecting and improving the quality of instruction in classrooms, when teachers are considering students preferred learning style, according to the students' potential intelligence. It had been mentioned that "the dissemination of MI theory at every level of education has resulted insignificant challenges to a century's worth of fundamental educational principles and practices" (Helding, 2009, p. 193)

Gardner's definition of intelligences in his theory (MI) "is the ability to solve problems, or to fashion products, that are valued within one or more cultural settings" (Gardner & Hatch, 1989, p. 5). His pluralistic theory relies on two foundations:

1- *Biological*

refers to how the brain is functioning and causing learning

2- *Cultural*

related to the population's perceptions to specific intelligence as more

valuable than others (Brualdi & ERIC, 1996).

Based on intensive and inclusive research in various fields such as biology, neuroscience, anthropology, psychometry and psychology, on prodigies and savants, Gardner came up with eight criteria to identify seven human intelligences in 1983, they are: logical, mathematical, linguistic, spatial, musical, bodily kinesthetic, intrapersonal and interpersonal. In the mid-1990s, he added another intelligence that is "naturalistic" (Davis et al. 2011). Later on, he added the ninth one which is "existential" .Gardner believes that people own all these intelligences but in different degrees, and no one, even identical twins, has the same intellectual profile that consists a collection of strengths and weaknesses in each type of intelligences. Furthermore, these intelligences interact in individual in different way through interference, enhancement, and compensation.

Looking at the intelligences as "combination of heritable potentials and skills that can be developed in diverse ways through relevant experiences"(Davis, et al. 2011, p. 3), Gardner is convinced that IQ tests are insufficient to recognize students' capabilities in schools, and accordingly label them as "smart" or "dumb".

2.5. National Association of Gifted Children (NAGC)

The reason behind displaying general information about this association is that the researcher intended to examine the gifted and talented pilot program based on the national programming standards because of two reasons. Firstly, the researcher didn't find national standards for gifted and talented programs in ADEK's policy for special needs so the evaluation in this research will be more oriented and guided. The second reason is that during this section, and under each programing standard, the researcher intended to review the literature on gifted and talented programming components, which seems more reasonable from the researcher perspective.

The National Association for Gifted Children was established for high potential children's welfare and to be "fully recognized, universally valued, and actively nurtured to support children from all background in reaching for their personal best and contributing to their communities" (NAGC 2016, p. 2). Thus, the mission is mainly focused on encourages all members who are involved directly or indirectly in nurturing gifted and talented children through a raising public instance to adopt policies that reinforce the programs and services and guarantee the most effective and best practices for such children in their schools, homes and communities. This association has developed Pre-K to Grade 12 national standards of gifted education in programming and services as well as teachers' preparation that are grounded on theories, researches and best practices. These standards are as follows:

2.5.1. Standard 1: Learning and Development

"Educators, recognizing the learning and developmental differences of students with gifts and talents, promote ongoing self-understanding, awareness of their needs, and

cognitive and affective growth of these students in school, home, and community settings to ensure specific student outcomes"(NAGC 2010,p.1)

Gifted children face several vulnerabilities in their critical school years such as uneven development that occurs when a deep gap between their advanced intellectual abilities and their social and physical age skills prevent them from applying their own projects or ideas or lead adults to expect earlier social maturity to match their advanced intellectual abilities which eventually cause frustration and miss understanding towards immature behavior. Those children may be even exposed to negligence by adults if many difficulties like social immaturity, problem behavior or physical weaknesses eclipsed from discovering their exceptional abilities, which drive them to lack of self-confidence and ultimately losing self-esteem. They may also be exposed to perfectionism where the highly gifted draw a rigorous and strict picture of perfection by setting impossible goals or advanced professional level standard for their ambitious, not- deficient or defective, successful life, and they will have perceived as failed to a lack of ability, and accordingly their self-concepts will diminish. Parents' and teachers' high expectation inhibit the gifted from living an ordinary life or living up their potential in the areas of their interest. Additionally, intense sensitivity will probably lead to feeling negatively to social or environmental cues and incidental events that they are socially rejected, odd and even despaired at an early age. Their self-definition might be affected as well; many factors affect their identity formation and make it more difficult and complex such as self-perfectionism, others' expectations and perspectives to their uniqueness, unsure about the direction of their gifts and talents. Several other areas will be touched as well, such as alienation which is caused by the deficit to contain and understand their abilities by their peers, inappropriate educational environments provided by schools and the role conflict between being normal person and be in line with society stereotype expectations for them, or being exceptionally gifted regardless all sex, age, ethnic and hitches obstacles (Roedell 1984).

Therefore, for better emotional and social development and adjustment, Freeman (2006) proposed several services to help those children such as counseling, participating in out-school activities, mentoring, facilitating efforts to provide enrichment in education, teachers; training, tooling up teachers with various materials and resources, avoiding rigid teaching styles, and creating a school atmospheres where dealing with gifted students is considered to be a normal and natural aspect in the schools' education in addition to avoiding the exaggeration on student's scholastic achievement.

2.5.2. *Standard 2: Assessment*

"Assessments provide information about identification, learning progress and outcomes, and evaluation of programming for students with gifts and talents in all domains" (NAGC 2010,p.2)

For effective identification process, a multiple measures (methods, instruments) and different provenance of evidences so called alternative tests and procedures that are teachers, parents and peers nomination, nonverbal measures designed specifically for students who are unlike regarding their culture and language , "authentic assessment", "portfolio assessment", "dynamic assessment", and gifted rating scale, aside to the most popular used that is the IQ tests are all recommended and preferred to identify gifted (Pfeiffer 2008).

Moreover, differentiated assessment protocol is necessary to determine students' attainment of the desired progress and high achievement in different subject-areas regarding the accountability and the effectiveness of the gifted programs. Preparing and well training on national and international high-stake tests which is content-based curriculum is mandatory even for gifted. Furthermore, alternative assessment tool such as performance –based tools and assessment rubrics are essential to measure individual growth. (VanTassel-Baska 2005).

Program evaluation which is "Evaluation is the process of ascertaining the decision areas of concern, selecting appropriate information, and collecting and analyzing information in order to report summary data useful to decision-makers in selecting among alternatives" (Alkin 2012, p. 16), is essential for program sustainability through raise the accountability in which developers uncover to the publics the program success and its cost- effectiveness. And equally important, give the teachers and directors the chance to review and improve the program.

2.5.3. Standard 3: Curricula & instruction

"Educators apply the theory and research-based models of curriculum and instruction related to students with gifts and talents and respond to their needs by planning, selecting, adapting, and creating culturally relevant curriculum and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes" (NAGC 2010,p.4).

Various forms of curricula assist teachers in regular classrooms to meet and nurture the needs of high ability students and they are:

a. curriculum differentiation based on modulation the content, process, and products

b. curriculum compacting counting on removing mastered content or simplifying works due to their ability in mastering it in a rapid pace

c. curriculum enrichment via providing students with opportunities to discover the content that exceeds the regular curriculum in depth and in a multidisciplinary basis

d. curriculum acceleration on which based on the learners' ability of learning and acquisition the knowledge and skills in more rapid pace than their peers, which enables them to cover advanced experiences regardless of their age or grades through "grade advancement", "specific subject acceleration", "honors classes", "advanced placement classes", and "early college entrance" (Auld et al. 2000).

Effective differentiation in curriculum and instruction that responds to the broad variety of learners' readiness, interest and learning profile is

1- a proactive process which requires preplanning to meet the diversity needs in classroom
2- allows for small teaching –learning homogenous or heterogeneous groups
3- provides different learning materials that commensurate with varies needs of individuals and groups
4- modifying the instructional pace to accommodate with learners' abilities and capabilities
5- knowledge centered that relies on teachers' proficiency on their subject matter
6- Learner centered (Tomlinson et al. 2003).

Educational extracurricular activities which take places in or out the school such as Saturday schools, summer school, competitions, workshops, clubs, courses and special programs are considered an important complementary aspect in gifted education and an alternative source in stimulating and orienting the gifted (Kelemen 2015).

2.5.4. *Standard 4 : Learning Environment*

"Learning environments foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes" (NAGC 2010,p.6).

Teachers' main concern in nurturing and developing gifted and talented potentials within regular classrooms is keeping the spirit of coherence and unity in the regular classroom which can be solved through holding the full responsibilities in creating a learning environment that works properly via meeting all students' needs that align with their interests and abilities, and to be fully aware of this, facilitators are to be experts in their subject matter knowledge and should possess learning management skills (Parke 1992), which are: effective development (self-efficacy/self-confidence) through providing the gifted child a constructive feedback on their works that opens

their eyes on the basic principles for successful progression, social development via grouping with their intellectual peers to avoid the social ostracism and serious communication problems and cognitive development by using cognitive apprenticeship in solving real life problems, that relies on integrative role of both teacher's in modeling, coaching, and scaffolding , and student's role when articulating, reflecting, and exploring. Those skills are all essential ingredients in creating a supportive learning environment (Diezmann & Watters 1997).

2.5.5. *Standard 5: Programming*

"Educators are aware of empirical evidence regarding (a) the cognitive, creative, and affective development of learners with gifts and talents, and (b) programming that meets their concomitant needs. Educators use this expertise systematically and collaboratively to develop, implement, and effectively manage comprehensive services for students with a variety of gifts and talents to ensure specific student outcomes" (NAGC 2010, p.7).

Setting polices is an essential step in developing any educational program. These policies hold in folds the type of services and the modality of delivering. The policy components are mandate definition of giftedness, the philosophy, the mission or goals, the theory, practices, professional development of staff, partnership with parents, referral to consultants, the different identification methods and the evaluation part (Porter 2005).

According to Clark (1983), gifted programs' goals are:

- providing well-tailored opportunities and experiences to satisfy different needs;
- creating a supportive environment for their talent, affective growth, intelligence, and intuitive ability;
- facilitating the cooperative interaction between children and their parents;
- encouraging the gifted children to explore their potentials through allocating time and space for so, giving them more space for real interactive with other adults and children of various abilities; and

- encouraging gifted students to discover and pursue their interested area or field in this sophisticated era.

2.5.6. *Standard 6: Professional Development*

"All educators (administrators, teachers, counselors, and other instructional support staff) build their knowledge and skills using the NAGC-CEC Teacher Standards for Gifted and Talented Education and the National Staff Development Standards. They formally assess professional development needs related to the standards, develop and monitor plans, systematically engage in training to meet the identified needs, and demonstrate mastery of standard. They access resources to provide for release time, funding for continuing education, and substitute support. These practices are judged through the assessment of relevant student outcomes" (NAGC 2010, p.8).

Educators encounter many barriers while providing learning opportunities to challenge gifted in regular classes, such as:

1. curriculum differentiation; this crucial aspect has been affected by four factors:
   - Amount of differentiation desired;
   - Supplying gifted student with upper grade level learning opportunities;
   - Philosophical obstacles and the teachers' hatred of such special need students;
   - Shortage in recognizing the nature of provided services
   - Insufficient Service mandates to support their advanced learning which eventually leads to ignoring exceptional learners.
2. The deficiency on teachers' subject matter knowledge
3. The lack of classroom management skills
4. The recognition of teachers' roles as facilitators and not the only main source of knowledge.
5. Fears from curriculum modification;
6. Confronting various types of gifted learners which require high professional responses to these needs regarding curriculum modification;

7- Difficulties in allocating suitable resources that are beyond their grade level, but the content or issues that are discussed in is matching their age appropriateness; and guiding gifted learners on utilizing these resources correctly and perfectly;

8- Insufficient planning time among teams ;

9- Lack of a supportive system by administrators, and

10- Teachers are facing obstacles in implementing relevant pedagogical skills with gifted students due to humble professional development (VanTassel-Baska & Stambaugh 2005).

NAGC determined ten standards of knowledge and skills that teachers must possess for best services for gifted and talented. These standards are centered on being familiar, aware and knowledgeable about:

- The foundations of gifted education ;

- Development and Characteristics of Learners,

- Individual Learning Differences;

- Various instructional strategies ;

- Learning Environments and Social Interactions;

- Learners Language and Communication skills;

- Developing effective Instructional Planning among teachers;

- Assessments utilized in identification process, measuring students' progression ,and evaluation the program;

- Ethical Practices between teachers and learners and different methods and resources for ongoing professional development.

2.6 Conclusion

In general, this chapter focused on the key contributions on the development of the giftedness and relevant issues, ADEK's pilot program policy and the related main theories it is based on, as well as discussing gifted and talented program components under the umbrella of National Association of Gifted Children Programming Standards.

Chapter3. Methodology

3.1 Introduction

This chapter discusses the methodology used to achieve the aim of this research. it includes the discussion of the research design, data collection methods followed, discussion of the participants who took part of this research and the data analysis techniques utilized.

The purpose of this mixed method case study was foremost to discover to what extent the gifted and talented pilot program had been implemented to achieve its goals and outcomes, in public schools at Al-Ain region in Abu-Dhabi, considered to be the key official authorities of ADEK. Furthermore, the researcher seeks to examine the stakeholders' perceptions for the effectiveness of the provision and services of the current program according to NAGC programming standards. The whole purpose of this chapter is to help analyze the four main questions lead this research, relevant to public schools' implementation of ADEK pilot program, its effectiveness, results achieved through it, and ADEK's pilot program compliance with NAGC gifted programming standards.

3.2 Research Design

This combination of features of qualitative and quantitative approaches used in this research, in addition to the sequential exploratory strategy, strengthens the understanding of the phenomenon that is the extent to which the implementation of gifted and talented pilot program according to its stated goals and outcomes, and its effectiveness regarding relevant stakeholders' perceptions and NAGC gifted programing standards, in a multiple case study, through various resources of collected data (Gay et al. 2011).

3.2.1 The Quantitative Method

This quantitative research method utilized within this research is composed of classroom observations that were conducted and survey which was accomplished by gifted and talented teachers, school building principals, academic vise principals, and

head of faculty. The utilized survey was adapted according to Habersham (2014) adaptation "of Lord and Cotabish's 2010 adaptation of Marzano's (2003) Snapshot Survey of School Effectiveness Factors" (p.38). According to Habersham (2014), the Lord and Cotabish's Snapshot Survey of Gifted Programming Effectiveness Factors was approved in 2010 in the "Annual Meeting of the National Association for Gifted Children, Atlanta, GA" and used the six standards with the research-based indicators "to ascertain participants' perceptions of their current instructional and programming practices relative to national standards" (Habersham, 2014, p. 40), which in turn corresponded with the intention of Habersham (2014), where he was seeking to examine the alignment degree of a school district gifted and talented programming practices with the national standards (NAGC) using a Likert scale ranging from 1 to 4 (1=not at all, 2=some evidence, 3=adequate extent and 4=to a great extent) to answer the key question "To what extent do we engage in this behavior or address this issue?". The standards are orderly numbered:

- Standard 1: Evidence Based Practices 1.1.1 - 1.8.2
- Standard 2: Evidence Based Practices 2.4.1 - 2.6.3
- Standard 3: Evidence Based Practices 3.1.1 - 3.6.1
- Standard 4: Evidence Based Practices 4.1.1 - 4.5.3
- Standard 5: Evidence Based Practices 5.1.1 - 5.7.2
- Standard 6- Evidence Based Practices 6.1.1 - 6.4.2.

3.2.2   *The Qualitative Method*

Individual interviews with gifted and talented teachers, special need education teachers, Head of Faculty, and social workers were accomplished. Also, focus group interviews with gifted and talented learners took place, while reviewing the gifted and talented school profiles.

3.2.3 *Sequential Explanatory Strategy*

The sequential explanatory strategy was adopted in this research "to explain and interpret quantitative results by collecting and analyzing follow-up qualitative data"

(Creswell & Creswell 2017, p.211), because the researcher started her study by displaying the survey , then and based upon the earned results which required more investigation on the implementation of the pilot program ,four sequential stages were conducted respectively: individual interviews, focus group, classroom observation, and documents analysis. Additionally, this multiple case study is based on a bounded system which is considered to be "useful when describing the context of the study and the extent to which a particular program or innovation has been implemented" (Gay et al. 2011, p. 445),whereas the researcher in this study determined three schools within three cycles to obtain data for exploring the implementation of gifted and talented pilot program and its effectiveness according to stakeholders' perceptions and regarding to NAGC programming standards.

3.3   Setting

The setting of this multiple case study was composed of three male schools from three cycles: Cycle 1 (grade 1-5), Cycle 2 (grade 6-9) and Cycle 3 (grade 10-12) of ADEK public schools at Al-Ain region affiliated to the UAE capital Abu-Dhabi. Gifted and talented pilot program had been conducted in these elected schools formally in the school year 2016-2017 depending on several reasons but not limited to:

1- These schools show growth in general and specifically in gifted and talented area in the recent inspection reports
2- Administration approval relying on their willingness and school readiness for the implementation of the pilot program
3- Cluster managers recommendations
4- The availability of minim number of staff who has prior knowledge and experience in gifted education
5- Meeting the needs of gifted and talented through several initiative but not full program.

The entry into the program in cycle 1 school started in grade 4, after completion the identification process on the first trimester of the school year 2016-2017.

Consequently, three services were offered for gifted; differentiated learning activities in regular classroom, pull-out model and academic competitions. In 2017-2-18, the cycle 1 school moved to another type of provision of service that is Cluster Grouping Model, in which "a small group of students with identified gifts/talents in a similar area of strength in an otherwise heterogeneous classroom, taught by a trained teacher of the gifted"(ADEK 2017,p.4). In the current school year, 21 students in grade 4 and 19 in grade 5 are participating in the program. A special need education teacher, in cooperation with the head of faculty, is in-charged of monitoring the program.

In cycle 2, grade 6 was chosen to participate in the program. After the identification, regular classroom teachers applied the differentiation model; resource room/pull-out model had been served for further extension activities in the innovation room, and academic competitions. During the research time, the school changed the provision of service to Elite classrooms model that received from Ministry of Education (MoE) and provide it with a special curriculum in Mathematics and Science, later on students move to their regular classroom for other subjects. 40 gifted and talented students, at the study time, are distributed equally between two grades level 6 & 7. The special need education teacher is responsible on following up the implementation of the ADEK pilot program but not MoE program, by keeping conducting the pull-out model.

Grade 10 joined the program after examining their eligibility to be part of it in Cycle 3 schools. Resource room/pull-out model, differentiation in regular classroom, and academic competition /innovation club are the three models that are adopted during the first and second year of program implementation. 49 students had been identified to participate in the program during the research time in grade 10 and 11. The special need education teacher is responsible on following up the program.

Access to these schools was authorized by ADEK research Department, and an official email had been sent to the schools' principals attached with the approval letter and the recommendation letter from the manager on gifted and talented program in

ADEK, who determined the schools name and the direct contact phone number of people in charge of the program in their school, to attain their agreement. Each cycle showed their willingness to cooperate and support the researcher in her topic. The researcher contacted directly with the responsible people who are special need teachers and Heads of faculty, who in turn facilitated the researcher mission through arranging the interviews and displaying the surveys. Table 1: *2017-2018 Cycle 1, 2, and 3 Schools Student Enrollment & the percentage of program participants by grade level and school*) demonstrates the three cycles students' enrollment and the program participants by grade level and school.

Grades	Cycle 1 school	Cycle 2 school	Cycle 3 school	Gifted and talented participants	Total students by School	Total percentage of gifted and talented population by grade level	Total percentage of gifted and talented population by school
Grade 1	69				454		
Grade 2	75						
Grade 3	86						
Grade 4	116			21		18%	4,6%
Grade 5	108			19		17.6%	4%
Grade 6		220		20	848	9%	2,35%
Grade 7		200		20		10%	2.35%
Grade 8		208					
Grade 9		220					
Grade 10			210	24	633	11.4%	3.79%
Grade 11			198	25		12,6%	3.94%
Grade 12			225				

Table 1: *2017-2018 Cycle 1, 2, and 3 Schools Student Enrollment & the percentage of program participants by grade level and school*

3.4 Participants

The participants represent the purposive sampling, because the researcher had been informed via an official email from the ADEK program manager of gifted and talented after mutual emails, that these three schools are the only schools that had been chosen in Al-Ain region to apply the pilot program in 2016-2017.

During the first visit, the researcher met with the special education teacher in cycle 2 who distributed the questionnaires and arranged the interviews with himself and three gifted and talented teachers who are specialize in Arabic Language, Civic, and Science. Moreover, 3 classroom observations at grade 7 for Mathematics, English and Sciences were conducted, followed by reviewing the document that was under the responsibility of the special education need teacher.

The second visit was facilitated by the Head of faculty of cycle 1.started from spreading the survey, and then conducting 6 interviews with 1 Arabic Language teacher and 2 English, Mathematics and Science teachers who are responsible for teaching three subjects at once, special education teacher who was also in charge of the program with the head of faculty, the social worker, and the head of faculty himself. Additionally, focus group interviews took place with 10 gifted and talented learners at grade 5 &4.In the second visit, the researcher reviewed the document.

In cycle three, the academic vise principal arranged the interviews with him-self, the science technology teacher who was responsible of the innovation room, and special education teacher. Furthermore, 4 gifted and talented students from grade 11 participated in the focus group since they have been identified as gifted and talented in grade 10. 2 classroom observations had been conducted in grade 11.Finally, reviewing the document.

Table 2: *Sampling and Data Collection Plan*, illustrates the numerical participation in every methods.

Methods	Cycle 1	Cycle 2	Cycle 3	The total
Surveys	-3 gifted teacher -2 administrators	-9 gifted teacher	-13 gifted teacher -3 administrators	30
Individual Interviews	*Face to face:* -3 Gifted teachers -1 head of faculty -1 special education teacher *by phone*: -1 social worker	*Face to face*: -3 Gifted teachers -1 special education teacher	*Face to face:* -1 Gifted teachers -1 academic vise principal -1 special education teacher	13
Focus Groups	-10 gifted learners		-4 gifted learners	14
Observation	-2 lessons in grade5 - 1 lesson in grade 4	-3 lessons in grade7	-2 lessons in grade 11	8
Document Review	✓	✓	✓	3

Table 2: *Sampling and Data Collection Plan*

3.5 Data Collection

Collecting data occurred in during the academic year 2017-2018, where three full days with three part of day visits were carried out in the three schools. The quantitative included the survey and classroom observation, while the qualitative methods that included interviews, focus group and document review of the pilot program had been used to obtain a holistic overview of the implementation process of

the new gifted pilot program in the public schools in the first place as well as its effectiveness.

3.5.1 Questionnaires

The researcher decided to adapt the snapshot survey with minor adjustment which was by adding two items related to the first research question that related to the degree of implementing the program regarding schools' goals and outcomes, which are

1- *"I am aware of the ADEK gifted and talented pilot program policy"*
2- *"I am familiar with ADEK gifted and talented pilot program policy"*

Regardless the minor adjustment that aforementioned above, the questionnaires obtain stakeholders perceptions about the effectiveness of the gifted and talented pilot program regarding the NAGC programming standards. The questionnaire was developed with five standards: program's learning and development, assessment, curriculum, learning environment, and professional development, and was oriented to gifted and talented teachers, and a survey with one standard the programming (5) was presented to the Principal , Vise principal ,and Academic vise principal.

3.5.2 Individual Interviews

The researcher collected data regarding participants' perception due to their role on the program in the ADEK public schools. The semi structured interviews questions that consisted of structured and unstructured approaches were designed to "explore and probe participants' responses together in-depth about their experiences" as well as "examine attitudes, interests, feelings, concerns, and values" (Gay et al. 2011, p. 386). An official email attached with a letter of permission from ADEK research department, was sent to schools' principals, special need teachers and the head of faculty, to facilitate the researcher mission and to explain the types of data collection methods the researcher intended to use during visits. If participants did not respond within one week, follow-up emails were made through telephone or email. A total of 13 stakeholders existed; 3 special education teachers, 1 head of faculty, 1 academic

vice principal, 7 gifted and talented teachers, and 1 social worker who were interviewed for almost 30-40 minutes of face to face conversation or telephone call. The questions were written as protocols to guide the discussion and were differentiated regarding the research questions. The interviews were firstly taped after gaining the participants permission, then documented literally, summarized, and used to compare among and to conclude joint themes, which in turn, with the help of the analyzed data, guided the researcher in her decision to select the survey instrument.

3.5.3   Focus Group Interviews

Focus group interviews were initially oriented to gifted and talented teachers, but because of their full schedule and other duties during their school day, it was very difficult to arrange the meeting with them, thus the researcher decided to conduct this procedure with the gifted and talented learners themselves. The purpose behind the focus group technique is to create a climate where learners could share their perspectives, views, opinions, concerns and suggestions regarding the whole program they were in for almost two academic years.

10 learners from cycle 1 and another 4 from cycle 3 are all males have participated. Questions were written, and participant's responses were taped after having their permission. During the interviews, the researcher ensured that "the interaction between individuals will lead to a shared understanding of the questions posed by a teacher researcher" (Gay et al. 2011, p. 388) through explaining the rules that this interview is "group-sharing activity" rather than individuals domination.

3.5.4   Classroom Observations

These observations had been conducted in a total of 8 classrooms in the three cycles. The purpose of this qualitative method is to observe the teachers' teaching behaviors and students' engagement and reactions in a real setting, thus allowing obtaining deeper information about the gifted program practices. The researcher was acting as a nonparticipant observer because the "observers are less intrusive and less likely to become emotionally involved with participants" (Gay et al. 2011, p. 382). The

researcher documented the field notes using "The William and Mary Classroom Observation Scales". The instrument had been developed depending on best practices in gifted education by the Center for Gifted Education at the College of William and Mary. According to VanTassel-Baska (2011), this instrument had also been validated by experts who reviewed and calculated at 0.97, whereas the reliability reached to 0.82.

The observation scales are split into six categories: "curriculum planning and delivery", "accommodations for individual differences", "problem solving", "critical thinking strategies", "creative thinking strategies", and "research strategies" respectively, and consist of 25 behavioral indicators that focused on general and differentiated teaching behaviors. The Likert scale rating was composed of 4 elements (3 = Effective , 2 = Somewhat Effective, 1 = Ineffective, N/O = Not Observed). Approximately, forty-five minutes was the observation duration.

3.5.5 Documents Review

This type of data collection opens another window on the program implementation aspects in these schools. Documents included are ADEK's gifted and talented pilot program policy (the handbook) which been explained previously in chapter two (the literature review) ,and schools profiles of the gifted pilot program which the content displayed in chapter4, to make a comparisons between what been stated by the policy makers of the program in handbook ,and schools efforts in implementing the pilot program effectively regarding their goals and to explore any gaps during the implementation and trying to interpret these deficiencies.

3.6 Data Analysis

3.6.1 Analyzing Quantitative Data

This dissertation analyzed data through sequential explanatory strategy. The numerical data in the 30 aggregated surveys' data was analyzed using Microsoft Excel for clarifying the measure of central tendency. The mean had been specified after calculating the data; the sum of the data set was sorted by the number of

indicators for each standard. The mean was used to characterize the middle of a set of data that does not have an outlier. When the mean was calculated per member, the average mean was specified. To determine variance among data points the standard deviation was calculated to indicate data point close to the mean or spread out over a wide range value. The data points were then used to compare participants' perception regarding the program effectiveness using the NAGC standards. The same steps except the calculation of standard deviation had been done in analyzing the data of classroom observation sheets.

3.6.2   Analyzing Qualitative Data

The results from 30 surveys developed concerns regarding program components and its effectiveness during the implementation. Thus, an interview, focus group and document review were the methods utilized to help the researcher in interpretation the quantitative findings that related to exploring the effectiveness of implementation of gifted and talented pilot program in 3 public schools from stakeholders' perceptions, and according to NAGC programming standards which is very popular in gauging the effectiveness of any gifted programs regarding to its based on best practices in this field. After qualitative data been collected, the analysis was based on induction that is breaking down the descriptive data and trying to narrow it progressively to a key data through coding the interview and the focus group after being transcribed literally the taped interviews, which in turn assists in indicating the patterns and then determining the substantial themes which is considered to be a critical step in structuring the analysis and interpretation process (Gay et al. 2011). Finally, the common themes that emerged respectively from all obtained data set, helped the researcher in answering the four questions.

3.7   Ethical Considerations

Rules that discriminate between right and wrong are the basic ones when thinking of ethics. The Golden Rule of Resnik (2015) would be the perfect example of ethics, it mentions "Do unto others as you would have them do unto you"(p.1), which is a code

of professional conduct. Numerous principles of ethics were followed for the purpose of this ethical research.

Questionnaires were distinctly collected without any contact details. In addition to that, interview transcripts were anonymized and destroyed after final submission of the dissertation.

3.8   Conclusion

This chapter has deliberated the methodology that was employed to achieve the purpose of this dissertation. The chapter has mainly focused on the discussion of the research design and data collection methods followed. It has also discussed the participants who took part of this research and the data analysis techniques utilized. Following chapters will reveal the data gathered and the findings based on this data.

Chapter 4. Research Findings

4.1. Introduction

The purpose of this chapter is to present the findings of this research based on the evidence gathered by mixed-methods approach to answer the following research questions which were outlined in chapter 1:

RQ1-   To what extent is the gifted and talented program in ADEK's school being implemented, based on its proclaimed goals and outcomes?

RQ2-   What are the relevant stakeholder's group perceptions about the effectiveness of the gifted and talented programs in ADEK public schools?

RQ3-   To what extent is there evidence that gifted and talented learners have become promoted achievement as a result of joining the program?

RQ4-   To what extend is the gifted and talented pilot program in ADEK's three cycles public schools meet the NAGC gifted programming standards"?

This chapter is divided in to 8 sections, included findings from 6 methodologies utilized in collecting data and analyzing it, which are organized according to their implementation during the collection in the field. The seventh section introduces the findings across all methods to answer the research questions. The final section demonstrated the conclusion.

4.2. Results from the Questionnaire

The results from questionnaire are presented in this section. This section displays participants' perceptions regarding the effectiveness of indicators in each standard referring to NAGC programming standards, as mentioned in the literature review.

4.2.1. *Participants perceptions regarding indicators in each standard*

This section summarizes educators' perceptions on the effectiveness of each indicator in their schools, which reveals the consistency in datasets, if available. Table 3 shows

the summary of teachers' perceptions at Cycle 1 of the effectiveness of indicators in standards: 1, 2, 3, 4 & 6.

Table 3**:** Summary of Teachers' Perceptions represents the mean scores, ranging from 1.80 to 3.60. The highest score was for 3.4.3 & 3.4.4 in standard 3, 4.3.1 in standard 4, and 6.4.2 in standard 6. The lowest score was for 1.8.2 "Teachers and counselors implement a curriculum scope and sequence that contains personal/social awareness and adjustment, academic planning, and vocational and career awareness". The standard deviations ranged from 1.30 to 0.45 indicating high variance among perceptions of the effectiveness on the implementation relative to research-based indicators. The highest variance was on also standard 6, while the least variance appeared on standard 4 in five indicators.

Q	1	2	1.1.1	1.1.2	1.2.1	1.3.1	1.3.2	1.4.1	1.4.2	1.5.1	1.6.1	1.6.2	1.7.1	1.8.1	1.8.2	2.4.1	2.4.2	2.4.3	2.4.4	1.4.5	2.5.1	2.5.2
N	5	4	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	4	5	5	5	5
Mean	3.20	3.25	3.00	3.00	3.00	2.80	3.40	3.20	2.60	2.20	2.20	3.00	3.00	2.00	1.80	2.80	3.00	2.20	2.60	2.60	2.20	2.40
SD	1.10	0.96	1.00	1.00	1.00	0.84	0.55	0.84	0.89	1.10	0.45	0.71	0.71	1.15	0.45	0.84	0.71	0.96	0.89	0.89	0.84	0.55

Q	2.5.3	2.6.1	2.6.2	2.6.3	3.1.1	3.1.2	3.1.3	3.1.4	3.1.5	3.1.6	3.1.7	3.2.1	3.2.2	3.3.1	3.3.2	3.3.3	3.4.1	3.4.2	3.4.3	3.4.4	3.5.1	3.5.2
N	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Mean	2.60	2.80	2.80	2.60	3.60	2.40	2.20	2.80	2.20	2.80	2.20	2.60	2.40	3.00	3.40	3.20	3.40	3.60	3.60	3.00	3.00	3.00
SD	0.89	1.30	1.10	0.89	0.55	0.55	0.45	0.84	0.45	0.84	0.45	1.14	0.55	1.00	0.89	0.55	0.55	0.55	0.55	0.55	0.71	0.71

Q	3.5.3	3.6.1	4.1.1	4.1.2	4.1.3	4.1.4	4.1.5	4.2.1	4.2.2	4.2.3	4.3.1	4.3.2	4.3.3	4.4.1	4.4.2	4.4.3	4.5.1	4.5.2	4.5.3	6.1.1	6.1.2	6.1.3
N	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Mean	3.00	3.00	3.20	3.00	3.40	2.80	3.20	2.80	3.20	3.40	3.60	2.80	3.20	3.20	2.80	3.00	2.60	3.20	3.40	2.20	3.00	2.60
SD	0.71	0.71	0.45	0.71	0.55	0.45	0.84	0.45	0.84	0.89	0.55	0.45	0.84	0.84	0.45	0.71	0.55	0.84	0.89	1.10	0.71	1.14

Q	6.1.4	6.1.5	6.2.1	6.3.1	6.3.2	6.3.3	6.3.4	6.4.1	6.4.2
N	5	5	5	5	5	5	5	5	5
Mean	3.00	3.00	2.80	3.00	2.80	2.80	3.00	2.60	3.60
SD	0.71	1.00	1.30	0.71	0.84	0.84	0.71	1.14	0.89

Table 3: Summary of Teachers' Perceptions at Cycle 1

Table 4: Summary of Teacher's Perceptions at Cycle 2, shows the effectiveness of indicators in programing standards 1, 2, 3, 4, and 6.

Q	1	2	1.1.1	1.1.2	1.2.1	1.3.1	1.3.2	1.4.1	1.4.2	1.5.1	1.6.1	1.6.2	1.7.1	1.8.1	1.8.2	2.4.1	2.4.2	2.4.3	2.4.4	1.4.5	2.5.1	2.5.2
N	8	8	8	8	8	8	8	7	8	8	8	8	8	8	8	9	9	9	9	9	9	9
Mean	2.00	2.00	2.88	2.88	2.63	2.38	2.88	2.71	3.00	2.75	2.88	2.88	3.25	3.25	2.75	3.00	3.22	2.56	3.11	3.11	3.00	3.11
SD	0.76	0.76	0.83	0.83	0.74	0.74	0.64	0.49	1.07	0.89	0.83	0.64	0.71	0.41	0.46	0.87	0.83	1.01	0.60	0.60	0.71	0.78

Q	2.5.3	2.6.1	2.6.2	2.6.3	3.1.1	3.1.2	3.1.3	3.1.4	3.1.5	3.1.6	3.1.7	3.2.1	3.2.2	3.3.1	3.3.2	3.3.3	3.4.1	3.4.2	3.4.3	3.4.4	3.5.1	3.5.2
N	9	9	9	9	8	8	8	8	8	8	8	9	9	8	8	9	8	8	9	9	8	8
Mean	3.22	3.11	2.89	3.11	2.63	2.63	2.75	2.75	2.88	2.63	2.75	3.00	2.89	2.88	2.75	2.78	2.88	2.88	3.11	3.00	2.75	3.13
SD	0.67	0.60	0.60	0.60	0.92	0.74	0.46	0.71	0.64	0.52	0.89	0.87	0.78	0.83	0.71	0.67	0.64	0.64	0.78	0.71	0.46	0.64

Q	3.5.3	3.6.1	4.1.1	4.1.2	4.1.3	4.1.4	4.1.5	4.2.1	4.2.2	4.2.3	4.3.1	4.3.2	4.3.3	4.4.1	4.4.2	4.4.3	4.5.1	4.5.2	4.5.3	6.1.1	6.1.2	6.1.3
N	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Mean	2.89	2.78	2.88	3.00	2.88	3.00	3.00	3.38	3.00	2.88	3.13	3.00	2.88	2.75	2.75	3.25	2.63	3.13	2.75	2.50	3.38	3.13
SD	0.33	0.44	0.64	0.53	0.64	0.53	0.53	0.74	0.76	0.83	0.83	0.53	0.64	0.89	1.16	0.71	0.92	0.83	0.71	0.76	0.74	0.64

Q	6.1.4	6.1.5	6.2.1	6.3.1	6.3.2	6.3.3	6.3.4	6.4.1	6.4.2
N	8	8	7	7	7	8	8	7	8
Mean	2.63	2.25	3.14	3.29	3.43	3.13	3.13	3.00	3.25
SD	0.92	0.89	0.69	0.76	0.53	0.64	0.64	0.58	0.46

Table 4: Summary of Teacher's Perceptions at Cycle 2

Table 4: Summary of Teacher's Perceptions at Cycle 2reveals that the mean scores ranged between 3.43 and 2.25. The highest score was for 6.3.2 "I have the opportunity to participate in professional development that is sustained over time, that includes regular follow-up, and that seeks evidence of impact on teacher practice and on student learning" in standard 6. The lowest score was for 6.1.5 on the same standard "I have the awareness of other organizations and publications relevant to gifted education to promote learning for students with gifts and talents". The standard deviations ranged from 1.16 to 0.44 indicating high variance among perceptions of the effectiveness on the program implementation. The highest variance was on standard 4 and the lowest on standard 3.

Table 5: Summary of Teacher's Perceptions at Cycle 3, shows the summary of teacher's perceptions at Cycle 3 on the effectiveness of the programing standards 1,2,3,4, and 6.

Q	1	2	1.1.1	1.1.2	1.2.1	1.3.1	1.3.2	1.4.1	1.4.2	1.5.1	1.6.1	1.6.2	1.7.1	1.8.1	1.8.2	2.4.1	2.4.2	2.4.3	2.4.4	1.4.5	2.5.1	2.5.2
N	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	13	13	13	13	13	12	13
Mean	2.71	2.43	2.50	2.36	2.50	2.29	2.86	2.50	2.57	2.29	2.57	2.79	2.71	2.79	2.79	2.54	2.69	2.54	2.38	2.31	2.25	2.15
SD	0.73	0.76	0.85	0.93	0.85	0.83	0.95	0.94	0.94	0.91	0.85	0.58	0.61	1.05	1.05	0.52	0.75	0.52	0.96	0.95	0.75	0.99
Q	2.5.3	2.6.1	2.6.2	2.6.3	3.1.1	3.1.2	3.1.3	3.1.4	3.1.5	3.1.6	3.1.7	3.2.1	3.2.2	3.3.1	3.3.2	3.3.3	3.4.1	3.4.2	3.4.3	3.4.4	3.5.1	3.5.2
N	13	13	13	13	14	14	14	14	14	14	14	13	13	13	13	13	13	13	13	13	13	13
Mean	2.38	2.38	2.54	2.62	2.64	2.29	2.36	2.43	2.36	2.86	2.86	2.08	2.15	2.54	2.54	2.85	2.77	2.46	2.54	2.38	2.77	2.77
SD	0.87	0.87	0.78	0.87	0.63	0.83	0.74	0.76	0.93	0.77	0.66	0.76	0.90	0.78	0.66	0.69	0.73	0.66	0.78	0.65	0.60	0.60
Q	3.5.3	3.6.1	4.1.1	4.1.2	4.1.3	4.1.4	4.1.5	4.2.1	4.2.2	4.2.3	4.3.1	4.3.2	4.3.3	4.4.1	4.4.2	4.4.3	4.5.1	4.5.2	4.5.3	6.1.1	6.1.2	6.1.3
N	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Mean	2.54	2.31	2.43	2.43	2.50	2.79	2.86	2.71	2.57	2.50	2.50	2.71	2.64	2.57	2.57	2.71	2.43	2.79	2.64	2.00	2.43	2.07
SD	0.78	0.63	0.76	0.76	0.65	0.70	0.77	0.73	0.85	0.76	0.76	0.61	0.63	0.76	0.85	0.61	0.85	0.70	0.74	0.96	0.76	1.00
Q	6.1.4	6.1.5	6.2.1	6.3.1	6.3.2	6.3.3	6.3.4	6.4.1	6.4.2													
N	14	14	13	14	14	14	14	14	14													
Mean	2.21	2.50	2.31	2.43	2.29	2.50	2.57	2.86	3.14													
SD	0.97	0.94	0.85	0.85	0.73	0.85	0.85	0.86	0.86													

Table 5: Summary of Teacher's Perceptions at Cycle 3

Table 5**:** Summary of Teacher's Perceptions at Cycle 3 shows mean scores ranged from 2.86 to 2.07. The highest score was for the indicators 1.3.2, 3.1.6, 3.1.7, 4.1.5 and 6.4.1. The lowest score was for 6.1.3 standard 6 "I have the opportunity to participate in ongoing professional development addressing key issues and trends in gifted education such as anti-intellectualism and equity and access". The standard deviations ranged from 1.05 to 0.52 indicating high variance among perceptions of the effectiveness on the implementation relative to research-based indicators. The highest variance was on standard 1, on the other hand, the lowest was on standard 2: Assessment.

Clearly can be stated that cycle 2 and 3 found some indicators in the professional development were less effective than other standards. While cycle 1 had concerns regard the curriculum scope and sequence that related to developing gifted and talented socially and emotionally as well as guidance in their future careers that affiliated to standard 1.

Table 6**:** Summary of Administrators' Perceptions at the 3 Cycles shows the Summary of administrators' perceptions at the 3 Cycles (principals, academic vice principal and vice principals) on the effectiveness of indicators in the standard 5 that is the programming:

Question	N	Mean	Std. Deviation
-To what extent are you aware of the ADEC gifted and talented pilot program policy?	6	3.00	0.632
- To what extent are you familiar with ADEC gifted and talented pilot program policy?	6	3.00	0.000
5.1.1. To what extent do educators regularly use multiple alternative approaches to accelerate learning.	6	3.00	0.632
5.1.2. To what extent do educators regularly use enrichment options to extend and deepen learning opportunities within and outside of the school setting.	6	3.17	0.408
5.1.4. To what extent do educators regularly use individualized learning options such as mentorships, internships, online courses, and independent study.	6	1.83	0.753
5.1.3. To what extent do educators regularly use multiple forms of grouping, including clusters, resource rooms, special classes, or special schools.	6	2.83	0.983
5.1.5. To what extent do educators regularly use current technologies, including online learning options and assistive technologies to enhance access to high level programming?	6	2.67	0.516
5.1.6. To what extent do Administrators demonstrate support for gifted programs through equitable allocation of resources and demonstrated willingness to ensure that learners with gifts and talents receive appropriate educational services?	6	3.17	0.408
5.2.1. To what extent do educators in gifted, general, and special education programs, as well as those in specialized areas, collaboratively plan, develop, and implement services for learners with gifts and talents.	6	3.00	0.632
5.3.1. To what extent do educators regularly engage families and community members for planning, programming, evaluating, and advocating.	6	2.33	0.816
5.4.1. To what extent do Administrators track expenditures at the school level to verify appropriate and sufficient funding for gifted programming and services.	6	2.67	0.516
5.5.1. To what extent do educators develop thoughtful, multi-year program plans in relevant student talent areas.	6	2.50	0.837
5.6.1. To what extent do educators create policies and procedures to guide and sustain all components of the program, including assessment, identification, acceleration practices, and grouping practices, that is built on an evidence-based foundation in gifted education.	6	2.00	0.632
5.7.1. To what extent do educators provide professional guidance and counseling for individual student strengths, interests, and values.	6	2.83	0.753
5.7.2. To what extent do educators facilitate mentorships, internships, and vocational programming experiences that match student interests and aptitudes.	6	2.00	0.894

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Table 6: Summary of Administrators' Perceptions at the 3 Cycles

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Among the three cycles, the mean scores ranged from 3.17 to 1.83 relative to effectiveness of the implementation according to standard 5 (the programming). The highest score was for indicators 5.1.2 and 5.1.6 that relevant to teachers' implementation of enrichment options and learning opportunities in and outside school, and the extent to which administrators support the gifted programs, while the lowest was 5.1.4, "To what extent do educators regularly use individualized learning options such as mentorships, internships, online courses, and independent study?". The standard deviations ranged from 0.983 to 0.408 indicating high variance among perceptions of the effectiveness on the implementation relative to research-based indicators. The highest variance was for the indicator 5.1.3, and the lowest were 5.1.2 and 5.1.6 .

An overall look at the two items that been added to measure teachers' awareness and familiarity to ADEK's gifted and talented pilot program, resulted with cycle 1 teachers' higher awareness and familiar than other cycles with 80% , 81% respectively, followed by cycle 3 with 67% & 60.75% in awareness and familiarity, and finally Cycle 2 with 50% in both items. 75% of administrators were aware and familiar with ADEK's gifted and talented pilot program, with high variance in item 1 related to awareness.

The findings from questionnaires revealed deficiencies in the implementation of the pilot program in all three cycles because none of the 6 standards received full scores regarding the mean score. Furthermore, disagreement upon the effectiveness of the implementation among teachers within each cycle regarding the indicators appeared clearly from the high variances in the standard deviations.

4.3.   Findings from Interviews

Overall, 27 individuals participated in the discussion regarding their perceptions of the effectiveness of the program, the curriculum and instruction, the assessments, the identification process, students' progress, strengths and weakness of the program and suggestions for improvement . The recorded answers were documented, summed up,

and compared to determine the main themes in the gathered responses. The "Qualitative data by nature are subject to more variable interpretation, but as multiple data sets converge on one another to confirm the themes abstracted, reasonable inferences begin to emerge. In order for a theme to surface in this part of the data analysis, evidence of the theme had to be present from at least two data sources" (VanTassel- Baska 2011,p18). Such data was collected during almost three onsite visits during November and December 2017.

The following Table 7: Scope of the Qualitative Datrepresents the scope of the qualitative data collection effort as it linked to bunch of stakeholders in the schools and the abbreviations and their corresponding full meaning.

Stakeholder Group	Cycle 1	Cycle 2	Cycle 3	Number	code
Special need education teacher	✓	✓	✓	3	S.N.E
Gifted and talented teacher	✓	✓	✓	7	G.T.T
Academic vice principal			✓	1	A.V.P
Social worker	✓			1	S.W
Head of faculty	✓			1	HoF
Gifted and talented students(focus group)	✓		✓	14	F.G

Table 7: Scope of the Qualitative Data

Table 8**:** Five Categories Emerged from the Data Sets presents the five categories that were emerged from the data sets, they were: the identification, the curriculum and instruction, the assessment, professional development, and program effectiveness.

The Themes	Cycle 1	Cycle 2	Cycle3
	Data Sources		
The Identification			
-Teachers nomination affects the identification from different aspect.	G.T.T		A.V.P
-The academic assessments criteria in the identification requirement, lack to capture the different shapes of gifts, and some are not accurate.	HOF S.W F.G	G.T.T	S.N.E A.V.P
-The cutoff scores of the IQ test limited the identification pool, and don't indicate areas of giftedness.		G.T.T	A.V.P
- Product assessment criteria if implemented would broaden the pool of the identification.		G.T.T	S.N.E A.V.P
Curriculum and instruction			
-No specific curriculum and learning outcomes for gifted and talented had been provided for schools.	G.T.T, HOF, F.G & ,S.N.E	G.T.T S.N.E	G.T.T A.V.P& F.G
-Teachers develop the regular curriculum as an "individual efforts" via enrichment and differentiation across sub-groups within the classroom.	G.T.T, HOF	G.T.T	A.V.P
- Resources and materials are much needed for different subjects.	G.T.T&HOF	G.T.T	
-Teachers implement various instructional strategies.	G.T.T HOF, F.G&SEN	G.T.T	G.T.T A.V.P &F.G
The assessment			
-pilot schools didn't receive special assessment to measure gifted growth.	G.T.T, HOF, &S.N.E	G.T.T	A.V.P
-Teachers differentiate their assessment and utilize different methods to track students' growth.	F.G, G.T.T,& HOF	G.T.T	F.G & G.T.T

Professional development			
-The field lacks specialized teachers on gifted and talented education.	G.T.T	G.T.T	S.N.E
-More workshops and training courses on gifted education are needed for teachers and parents.	G.T.T HoF &S.W	G.T.T S.N.E	G.T.T A.V.P
-Holding training for parents to increase their awareness regarding their children needs	HoF	G.T.T & S.N.E	
Program Effectiveness			
-More effective channels of communication across pilot schools and special need department at ADEK are needed.	G.T.T , & HoF		S.N.E A.V.P
-need to support the field with more diversify structured programs.	G.T.T	G.T.T S.N.E	
-Parents influence the program from different aspects.	G.T.T S.N.E		
-Contradictions regarding school-based structures.	G.T.T,F.G HoF &S.E.N		A.V.P

Table 8: Five Categories Emerged from the Data Sets

4.3.1. The Identification

There is a consensus among educators in three cycles that the concentration on the traditional academic assessment (EMSA, PIPS), and performance in last two academic years eliminated the attention on other shapes of gifts and abilities in different areas, such as Arts, Music, athletics and Robotics. Another concern is that these assessments are easy and not reflect reality about student academic levels, specially the one that is mostly based on multiple choices which students can earn marks by "luck". Additionally, some students are not good test takers, so they could miss the eligibility. Two focus groups in cycle 1 described this by stating that "some students had been added to the program by mistake, while other in regular classroom has to be included to our special class".

Furthermore, 2 G.T.Ts in cycle 2 proclaimed that the emphasizing on scientific core subject (math and science) performance as criteria to identify students' gifts and abilities is not accurate and narrow the identification pool and excludes some students who possess various abilities in various subjects. Additionally, they believed that these two subjects which are considered tough on second language (English) may in

turn kill the creativity and become as an obstacle to demonstrate their ideational fluency because students, as it's known, think and express their thought and communicate through their mother language, so students who face difficulties in learning the second language will remain undiscovered regarding this issue.

On the other hand, IQ test scores were under debates, although some educators found it important in identifying students, G.T.T & A.V.P had concerns regarding the cutoff score of 120 in the IQ test, that is excluding some students because they just received one or two score beyond 120. G.T.T in cycle 2 contradicted with utilizing the IQ test and underestimates its necessity to reveal various abilities because some students are poorly skilled in some areas but amazingly perform in others. Furthermore, if the production criteria had been implemented in cycle 2and 3 schools, this would extend the inclusion according to educators in cycle 2 & 3.

Besides, teachers' participation in the identification process via their nomination impact the program because their perception regarding gifted and talented characteristics is different. This can be explained through Cycle 1 G.T.T who mentioned that "some students were nominated because they are highly imaginative or hard worker, but this is not good especially for some core subjects". In the meanwhile, educators support this criterion and found it important because teachers know students more than others. Two teachers in cycle 2 were involved in nomination but don't know about the other steps in the identification, while 1 G.T.T in cycle 3 knew nothing about the identification steps that occurred in his school.

4.3.2. *The Curriculum and Instruction*

Strong consensus in 3 cycles about the lack of specialized curriculum and learning outcomes oriented to gifted and talented, thus teachers utilize enrichment on some units and differentiation among groups within the classes. According to G.T.T, in cycle 1 and cycle 2, teachers are facing two barriers limited their role in serving the gifted to the fullest in addition to curriculum and resources, which are being restricted to cover the regular curriculum and outcomes they received from ADEK and MOE,

and further responsibilities beside their teaching which cleared by G.T.T in cycle 1 who stated that "we have for instance smart speaker program, but we need time, a specific time for doing that, take some of daily pressure from us, so we can implement", in addition to the shortage in resources in cycle 1 & 2, where teachers are trying to overcome the issue via manipulating and developing the available resources.

An agreement among participants in three cycles, teachers adopt various instructional approaches aligned with 21st century skills. Kagan strategy, project-based learning, graphic design, center activity, brain storming techniques, critical thinking, and creative thinking are some of strategies implemented in classes according to educators in three cycles. Training and specific curriculum are both important to broaden effective instruction as recommended by the HoF in cycle 1.

4.3.3. The Assessment

The absenteeism of specific curriculum with learning outcomes, left gifted and talented students without consolidated, well-structured, and oriented assessment according to educators in three cycles. Despite this shortage, the reading fluency, baseline tests and continuous assessment results showed a consistency growth in gifted performance as mentioned by the Hof in cycle 1. The F.G in cycle 3 confirmed their growth is several subjects and now their grades is higher than before, and this confirmed by F.G in cycle 1, who pointed to their commitment to keep up their total grade average to 90% as a minimum percentage to remain included in the program. G.T.T in cycle 2 & 1, agreed on using alternative assessment such as writing stories, competition participation, and improvement on their public speaking skills via sharing with "smart speakers" program.

4.3.4. Professional Development

More training on different aspect on gifted education is recommended by educators in three cycles, such as training on developing enrichment units at UAE University, and

getting courses to qualify them to be certified as gifted and talented teachers because teachers who are currently working with gifted students have different background and experiences in respect of gifted education but not carrying any degree on gifted education. More training is a must for parents to increase their willingness and define their roles at home and school as appeared in interviews with the HoF and 2 teachers in cycle 1 & 2. Furthermore, recognizing external successful programs through field visit will supply the field with fruitful and rich teachers' knowledge and experience as G.T.T in cycle 2 indicated. Additionally, teachers lack the opportunities to attend some training as mentioned by a G.T.T in cycle 1, because administrations don't usually support their attending to all these sessions.

4.3.5. Program Effectiveness

Some core subject teachers in cycle 1 preferred pullout model rather special classes' model because there is nothing special or different regarding curriculum or assessment guided to the gifted and talented students. Furthermore, gathering all high-level achiever in one class affects other classes by take away the model or supportive students to their classmates or low achievers within a classroom. Another reason is that students during the pullout are used to work on serious projects, putting more attention is now on their academic performance rather than on their interests. On the other hand, students at cycle 2 and focus group in cycle 1 found the special classes to be better than pullout due to several reasons, such as pulling out caused missing some important periods or classes, in addition to the lower waiting time spent telling others to finish their work in class, plus, they know how to cover the curriculum content faster than other classes and they don't want to be grouped with students who know less. Students also liked the combination with students from various areas of strengths, regarding the support they got it from each other and the effect of the dynamics of the classroom which align with the HoF's perception regarding this issue. However, this point of view contradicts with that of other G.T.T in the same school, who claimed that grouping must be conducted based on students' strength areas, that is subject specific to facilitate teacher's mission. Although some

programs had been implemented, like the "smart speaker program", "Ethara" and "Formula", science projects, robotics combined with goals, outcomes and clear guideline are more needed in schools as stated by cycle 1 & 2 educators.

Regarding the stakeholders looking to the program from two different perspectives, some parents consider it as a prestige and looking forward for their child's inclusion to the program and showing willingness to support and following their child, whereas others refused to include his son to protect him from envy.

More effective communication channels among pilot schools and special education department at ADEK are recommended to exchange information, experiences, and best practices to enrich the program was recommended.

The innovation room at two cycle's increases the students' motivation and performance in classrooms regarding to Cycle 2 S.N.E, and help teachers accurately distinguish the real gift and innate abilities in nominated students as G.T.T in cycle 3 recognized. Students, during the pullout time, work on various programs and projects such as building a model of space ships, designing racing cars "formula program", utilizing 3-dimension printer to print out cars and dismantling and installing of automobile engines.

Gifted and talented department in ADEK has to build a strong partnership with companies that are famous in specific domain to adopt these special and unique abilities via training them during summer and honing their skills to prepare them properly for the labor market as S.E.N in Cycle 1 recommended.

4.3.6. Summary

Interviewees revealed critical issues regard the implementation of the program. Curriculum and assessment to measure students' growth, program effectiveness, professional development, as well as the identification were common themes emerged during the interviews. The findings highlight a shortage in key components on the pilot program which gradually appeared through each section.

4.4. Findings from Classroom Observation

In this section, the data was analyzed by descriptive techniques. The findings were derived from 8 classroom observations, 3 in Cycle 1 (Mathematic, Arabic, and Science), 3 in Cycle 2 (English, Science and Mathematics) and 2 in Cycle 3 (Arabic and Social Studies). These classes were coded A, B, C. in each Cycle respectively.

4.4.1. Teacher Observations in Cycle 1 School

The three classes were observed for 45 minutes, A and B, and C. the teacher in classes A and C was the same one teaching different subjects. Three classes were delivering curriculum content after short reviewing on previous lesson. During the instruction time, they were using different strategies, which are questioning techniques, peers group, and problem-solving techniques. Differentiation among different abilities, curriculum enrichment or content acceleration were not observed, students were working on their regular books, but most were involved and motivated to participate in three classes. A special need student was in class A and C and although his disability he was included in the class and receiving no different instruction from his teacher in both classes, the teacher explained later that the picture he drawn on the board was specifically for him, as a method to deliver the new idea to him because he was specially intelligent.

4.4.2. Teacher Observations in Cycle 2 School

The observer attended full periods that lasted for 45 minutes in three classes. The three classes were special classes for gifted and talented, mainly in mathematics and science. In class A, the teacher was reviewing homework with students, then worked on their books sharing answers and giving some incentives. In class B, technology was used to watch videos related to the topic, the teacher also employed brainstorming techniques to discover the key ideas and drawing conclusions, and then reflected on their real life. Plus, the teacher reviewed with the students their project and discussed the technique and methods to conduct the projects. Not all students

were engaged, and few were participating and sharing their ideas and thoughts. In class C the students were more energized and motivated by teacher who played a game with them to keep them encouraged and evolved, during the content delivery which consisted of solving mathematical problems in students' book. Questioning technique, brainstorming, peer learning such as peer correction were strategies used.

4.4.3. Teacher Observations in Cycle 3 School

Only two classes were attended, and both were regular classes, not special for gifted and talented. In class A, students were discussing and evaluating their peers' articles. The teacher wrote some rubric item on the board to guide the students for more accurate evaluation and encourage expressing their opinions on their peers writing. Students were almost engaged, but the gifted were not recognized by delivering different work or activity to them. In class B, the technology was used during practicing on work sheet preparing for the term exams, almost all students were engaged and enthusiastic although gifted and talented were also not recognized via oriented or guided work for them. The teacher in class B showed the researcher some evidence of student's projects and activities gifted and talented were part of it, such as participating in clubs and competitions. No differentiation was observed in both classes.

The following Table 9: The William and Mary Classroom Observation Scales Revised represents "The William and Mary Classroom Observation Scales Revised, 2003" which the researcher utilized during the observation to measure the effectiveness of general and differentiated teaching behavior as indicated in detail previously in the methodology chapter.

Question	Effective	Some what	Ineffective	Mean	NO
Curriculum Planning and Delivery M=2.71					
1. Set high expectations for student performance.	100.00%			3.00	1
2. Incorporated activities for students to apply new knowledge.	100.00%			3.00	4
3. Engaged students in planning, monitoring or assessing their learning.	50.00%	25.00%	25.00%	2.25	4
4. encouraged students to express their thoughts.	62.50%	37.50%		2.63	0
5. Had students reflect on what they had learned.	66.70%	33.30%		2.67	2
Accommodations for Individual Differences M=2.25					
6. Provided opportunities for independent or group learning to promote depth in understanding content.	16.70%	66.70%	16.70%	2.00	2
7. Accommodated individual or subgroup differences (e.g., through individual conferencing, student or teacher choice in material selection and task assignments.)	20.00%	40.00%	40.00%	1.80	3
8. encouraged multiple interpretations of events and situations.	75.00%	12.50%	12.50%	2.63	0
9. Allowed students to discover key ideas individually through structured activities and/or questions.	71.40%	14.30%	14.30%	2.57	1
Problem Solving M= 2.44					
10. employed brainstorming techniques.	87.50%		12.50%	2.75	0
11. engaged students in problem identification and definition	50.00%	33.30%	16.70%	2.33	2
12. Engaged students in solution-finding activities and comprehensive solution articulation.	50.00%	25.00%	25.00%	2.25	4
Critical Thinking Strategies M= 2.20					
13.encouraged students to judge or evaluate situations, problems, or issues	57.10%	14.30%	28.60%	2.29	1
14.engaged students in comparing and contrasting ideas (e.g., analyze generated ideas)		100.00%		2.00	7

15. Provided opportunities for students to generalize from concrete data or information to the abstract.	33.30%	33.30%	33.30%	2.00	5
16. Encouraged student synthesis or summary of information within or across disciplines.	50.00%	50.00%		2.50	6
Creative Thinking Strategies M=2.1					
17. Solicited many diverse thoughts about issues or ideas.	75.00%	12.50%	12.50%	2.63	0
18. Engaged students in the exploration of diverse points of view to reframe ideas.		40.00%	60.00%	1.40	3
19. Encouraged students to demonstrate open-mindedness and tolerance of imaginative, sometimes playful solutions to problems.	40.00%	20.00%	40.00%	2.00	3
20. Provided opportunities for students to develop and elaborate on their ideas.	62.50%	12.50%	25.00%	2.38	0
Research Strategies					
21. Required students to gather evidence from multiple sources through research-based techniques (e.g., print, non-print, internet, self- investigation via surveys, interviews, etc.)					8
22. Provided opportunities for students to analyze data and represent it in appropriate charts, graphs, or tables.					8
23. Asked questions to assist students in making inferences from data and drawing conclusions.					8
24. Encouraged students to determine implications and consequences of findings.					8
25. Provided time for students to communicate research study findings to relevant audiences in a formal report and/or presentation.					8

Table 9: The William and Mary Classroom Observation Scales Revised

4.5. The Findings Across Three Cycles

In the first category "Curriculum Planning and Delivery", turned out to be the most effective item was the one that deals with setting high expectations for student performance which not seen only in one classroom, and on the other hand the infective item was having students engaged in planning, monitoring or assessing their learning that observed in almost 25% of the classrooms and received the lowest mean that is 2.25 and observed only in four classrooms. The only item observed in all classrooms was encouraging students to express their thoughts with 62.50% of effectiveness.

In the second category "Accommodations for Individual Differences", 75% of effectiveness was for the eighth item "encouraged multiple interpretations of events and situations" and was observed in all classrooms, thus had the highest mean score 2.71. The most ineffective item with 40% in this category is "accommodated individual or subgroup differences (e.g. through individual conferencing, student or teacher choice in material selection and task assignments)"and hasn't been observed in three classrooms.

The third teaching behavior "Problem Solving" was in evidence across all classrooms at the item "having students employed brainstorming techniques", with 87.50% and was observed in all classrooms. In the mean while the next two items were not observed in more than the half of the classrooms, and 25% of the observations were ineffective in the item e "engaged students in solution-finding activities and comprehensive solution articulation".

"Critical Thinking Strategies" items were almost not observed in classrooms, except the item "encouraged students to judge or evaluate situations, problems, or issues" which was seen in 7 classrooms, and had the highest percentage on effectiveness among all items in this category.

The fifth category is "Creative Thinking Strategies". The most effective item and observed in all classrooms is "solicited many diverse thoughts about issues or ideas" with 75.00%. While the least effective item that been observed was "engaged students in the exploration of diverse points of view to reframe ideas" and was not observed on three classrooms.

The last category, that is "Research Strategies", was not observed in all classrooms, although a teacher in one classroom was showing the steps of conducting term project and discusses with students some issues in it, but nothing was applied during the classroom observation.

Overall, all categories had been observed in classrooms with contrast in effectiveness availability of some items in each category. The most effective item with highest mean and were observed in all classes except one was under the "curriculum planning and delivery", which is "setting high expectations for student performance". On the other hand, the research strategy was not observed in all classes. Lastly, the least effective strategies were Creative Thinking Strategies with a mean score of 2.

4.6. Schools Document Review

The researcher reviewed schools' documents and compared its contents with the gifted and talented program requirement regarding ADEK policy in the Handbook. The three cycles' documents are presented their gifted and talented document to the researcher who found some content similarities among documents in three cycles:

4.6.1. Findings Across Three Documents

A- Invitations and decrees for various subjects organized by special need department in ADEK such as:

1- Workshop on "meeting gifted and talented needs" sponsored by UAE under patronage of Hamdan Bin Rashid Al Maktoum Award for distinguished academic performance;

2- Meeting for training on gifted and talented identification focus group and advanced learning plans;

3- Training on gifted and talented education;

4- Train the trainer for parent information session;

5- Training on smart speaker program;

6- Training on Ethara program (Formula)

7- Site visits to pilot schools;

8- Invitation to a visit to public-school implements "future problem-solving program";

9- Invitation to attend presentation results for gifted and talented program;

B- Gradual and continuous meeting of gifted program school team for several purpose;

C- The identification tools and results;

D- Lists of gifted students names;

E- Advanced learning plans for each student;

F- Sample newsletter had been sent at home regarding field trips and introducing the identification procedures that been used for eligibility to join the program;

G- Follow-up visits by the general manager of gifted program in ADEK.

4.6.2. Commentary on Findings

Common but relatively limited components of information about the program were found in the three documents as cleared above. But, the documents lacked very essential ingredients in any program document and they are:

1) The Schools' Goals and Intended Learning Outcomes for Gifted Students

Each school, according to ADEK policy, has to set specific goals and learning outcomes should also appear in their school improvement plan. These goals and outcomes are the cornerstone in every educational program regarding its strong relativeness to the measurement of students' progress and eventually assessing the effectiveness of the implementation of the program in these schools. School efforts and procedures are based on creating the optimal educational conditions for the gifted students through displaying their strategies and indicators of achievement on different areas such as leadership roles in this program via guarantee adequate professional development to the educators and resources they need to meet their students' needs, and following up on students' progress to improve their learning outcomes and stretch their potential for outstanding achievement, in addition to the learning process that take place in accordance with both the educators and learners. Additionally, the description of the structure of the school-based delivery model that been adopted from the ADEK gifted education policy and then implemented in the first academic year of the pilot program 2016-2017, or in the

second year 2017-2018 and the excuses, reasons and purposes behind this choice, goals and objectives of this model are all critical in any school program to be implemented properly to achieve the intended goals and objectives.

2) The Assessments

The identification process is documented well, but none of three schools show the implementation of product assessment rating used to evaluate students' creative products, which could prevent some from entering the program. The three schools mainly focused on IQ test results, achievement test results and teachers' nomination, and despite the importance of these three criteria, creativity can't be underestimated due to its role in discovering students' hidden abilities in various areas, not only the intellectual and academic abilities. Regarding to students' progression, no data is demonstrated in the three documents about gifted students' fulfillment although the derived data from interviews assert their improvement at various subject areas. Even alternative assessments that contrasted to the traditional assessment and collected formatively during the school year terms utilizing different material such are rubrics, used by teachers to evaluate students' progress, are also not documented and the material is not available. On the other hand, program evaluation is not located on the three documents in the first year of the program, thus no fruitful feedback regarding its positives or negatives were spotted, pouring on students' benefits and welfare by improving the different aspects in the program.

3) The Curriculum

The curriculum includes the content (for example the topics or enrichment units), processes, themes or concepts and products, coupled with the facilitative instructional strategies, targeted learning outcomes, resources and materials, and assessments types for measuring students' outcomes are all fuzzy and indistinct. ADEK's handbook for gifted and talented pilot program confirms the importance of differentiating curriculum in regular classroom, especially at cycle 1, but the schools' documents don't even present any of teachers' efforts or initiatives in this domain.

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4) Teachers Preparation and Qualifications

The training sessions, regardless of its purposes, that educators had during the two school years are insufficient to develop their skills within in the gifted education particularly when staff whose qualification on this type of education is limited to prior training, knowledge, and experience, and no specific degree or program diploma in gifted education is required, according to ADEK policy.

Furthermore, the demographic data related to educators of gifted and talented students are not also documented, in addition to teachers' population and the criteria of their selection (their qualifications, years of experience in teaching gifted and talented students and their achievement in gifted education).

5) The Programs

Ethara and formula 1 program, at all three cycles, and smart speaker program at cycle 1 are not stated well in any. The definition of those programs, their goals and objectives, the process they followed to implement, and the learning outcomes students gain through these experiences are not presented and no evidence of students' works, or their product, are available. Only cycle two displays some pictures that had been taken for students while they are working at the innovation room, but no final products are offering or outcomes.

4.6.3. Summary of Document Review

Reviewing school documents revealed unified key components in all documents, which are the policy, training on various issues related to gifted education for teachers and parents, competitions and programs to improve the quality of provision of gifted programs, ALP plans, and the identification documents. The researcher highlighted main concerns within the documentation of the schools' programs' goals and outcomes, curriculum and enrichment units, assessments, students' results, and students' work in the commentary session.

4.7. Findings Across Research Methods

In this session, the researcher summarized the findings across data sources (the questionnaires, interviews, focus group, classroom observation, and school document review), to answer the research questions. Table 10**:** Key Findings - RQ1 summarizes the key findings across methods to achieve the first research question.

Question 1: "To what extent is the gifted and talented pilot program in ADEK's cycle 1, cycle 2, and cycle 3 public schools being implemented referred to its proclaimed goals and outcomes?"	
Key findings across research methods.	• The three cycle's pilot Schools lack organized and planned program. There are No defined goals and objectives, learning outcomes, specialized curriculum or specific enrichment units. • Assessments Methods and data results to measure the students growth in different areas after implementing the pilot program ware not documented which in turn making the student's achievement data more ambiguous and fuzzy. • Sample of students works such as research –based projects or creative products or any other samples that reflects the effectiveness of the implementation of the pilot program regarding students growth, were not shown in documents. • Advanced learning plan were documented well, but oriented programs to satisfy students' needs according to their ALP, were not shown in the school documents. • The sub-programs were insufficient to develop students' abilities and potentials. • Inadequate professional development and training within the schools.

Table 10: Key Findings - RQ1

These presented findings indicated that the three public schools were not effectively implementing the pilot program due to deficiencies on documentation of very essential component on the program, stakeholders' perceptions, as well as classroom observation.

Table 11: Key Findings - RQ2 ,addresses second research question.

Question 2 "What are the stakeholder's perceptions about the effectiveness of the gifted and talented programs in ADEK public schools?	
Key findings across research methods.	• The assessment in Cycle 2&3 was the least effective. • Learning and development was the least effective in Cycle 1. • The curriculum was not available neither at cycle 1and cycle 2, nor at cycle three. • Specialized teachers who carrying certain degree of diploma in gifted education are more suitable for effective implementation. • Intensive training on multiple key aspects in gifted education should be presented to teachers and parents. • Better communication channels are needed. • Special classes' provision model for gifted and talented left other classes deprived from a good model. • Developing partnership with other companies and institutions would develop the program. • The majority of students admitted that students in other regular classes deserve being in the pilot program. • The item related to the opportunity to provide advanced development and maintenance of first and second language(s) in standard 4: learning and environment was the deficiency in the implementation of gifted program regarding this standard in all Cycles.

Table 11: Key Findings - RQ2

The findings were mainly obtained from questionnaires, interviews, and focus group and revealed dissatisfaction among stakeholders about the implementation of the pilot program and its effectiveness in their schools regarding all standards due to many reasons that uncovered during interviews.

Table 12: Key Findings - RQ3 ,address third research question.

Question 3 "To what extent is there evidence that gifted and talented learners have promoted achievement as a result of joining the program?"	
Key findings across research methods.	• ADEC gifted and tented hand book asserted the importance of monitoring student progression by different methods but not limited to such as: classroom grades, standardized test scores, authentic performance **measures.** • Student's growth evidences were not documented, • Program evaluation in previous year 2016-2017for program improvement was not documented. • The following indicators : 1)having the opportunity to ensure that the assessments used in the identification and evaluation processes are reliable and valid for each instrument's purpose, allow for above-grade-level performance, and allow for diverse perspectives ; 2)using off-level standardized assessments to measure the progress of students with gifts and talents, and 3)lacking of having the opportunity to ensure that the assessment of the progress of students with gifts and talents uses multiple indicators that measure mastery of content, higher level thinking skills, achievement in specific program areas, and affective growth , were the main concerns of teachers in three cycles. • The identification tools come under fire .some educators found some assessment not accurate and could be deceptive in selecting gifted and talented students. • Assessment is affected also by the shortfall on targeted curriculum. • Alternative assessments are utilized to measure their growth. • Students believed that they are showing progress in their performance due to strict condition to keep in the program.

Table 12: Key Findings - RQ3

In this schedule, students' growth after implementing the program lacks clarity and pointed to deficiencies in applying the assessment and evaluation the program, although the confirmation about progression from stakeholders.

Table 13: Key Findings - RQ4 answers research question 4.

Question: "To what extend is the gifted and talented pilot program in ADEC's three cycles public schools meet the NAGC gifted programming standards"?	
Key findings across research methods.	• The pilot program in ADEK schools did not t meet in 100% the six standards regarding the findings that derived from questionnaires. • There is a room of growth in all program components at ADEK pilot program in respect to national association of gifted children programming standards as appeared in the previous key findings across research methods that discussed almost all deficiencies and shortages in the program component mainly in the questionnaires. Furth more, • The administrators had their concerns focused on the item that related to educators if they are regularly use individualized learning options such as mentorships, internships, online courses, and independent study at standard 5 programming ,which means more works are mandatory to raise the effectiveness of the gifted program regarding NAGC standards.

Table 13: Key Findings - RQ4

The last question was intuitively achieved after answering the three first questions. All findings from the dataset approved that the pilot program did not fully meet with the NAGC standards.

4.8.   Conclusion

This chapter summarized the research question answers. The four questions were answered relying on the findings across research methods. The findings in general indicated lack and shortage in the implementation of the program and therefore its effectiveness. The following and final chapter will display the finding discussion, and recommendations for improvement.

Chapter5. Conclusion

5.1.   Introduction

This chapter discusses the key finding of the research presented in chapter 4 to address research questions that centered on the effectiveness of implementation of the gifted and talented pilot program in three cycles at ADEK public schools adopting explanatory sequential mixed method design. This chapter is divided in four sections: key findings discussion, recommendations, limitations, and conclusion. The research questions that guided the research are:

RQ1-   To what extent is the gifted and talented program in ADEK's school being implemented, based on its proclaimed goals and outcomes?

RQ2-   What are the relevant stakeholder's group perceptions about the effectiveness of the gifted and talented programs in ADEK public schools?

RQ3-   To what extent is there evidence that gifted and talented learners have become promoted achievement as a result of joining the program?

RQ4-   To what extend is the gifted and talented pilot program in ADEK's three cycles public schools meet the NAGC gifted programming standards?

5.2.   Discussion of Key Findings

The discussion during this section is structured upon 6 themes, derived from the findings cross data analysis. These themes are schools program plan for gifted, curriculum, assessment, professional development, program effectiveness, and alignment with NAGC; which explored via previous themes that concluded from quantitative and qualitative data. The findings in general revealed a gap in effectively implementing the pilot program in three cycles, and this gap is explained via following themes.

5.2.1. Schools' Program Plan of Gifted

Although ADEK's gifted and talented pilot program handbook asserted the importance of schools' responsibilities in developing an integrated program plan to insure effective implementation, the documents in all three schools did not present schools' goals and objectives of their programs, which in turn affect the discrepancy and the clearance of the pilot program implementation in three cycles.

Relevant components such as the program budget, students' learning outcomes, curriculum or enrichment units that supposed to be delivered by UAEU, samples of assessments whether from ADEK or teachers, students' progress in their strengths area, students' works which reflect their attainment and fulfillment, individual programs relevant to the ALPs that developed after the identification process for each students, and many more, were all not documented and no evidences showed schools' efforts to support gifted and talented teachers and students in three cycles school.

Other components that were available were only ADEK decrees, announcements, minutes of meetings, invitations to participate in activities out school building, fieldtrip parents' newsletters, and the identification tools used in choosing students. The deficiencies in schools' documents can be interpreted to the lack of professionals worked in schools to monitor the pilot program mainly. The school-based G/T contact members (HoF, A.V.P, S.E.N) who were responsible of monitoring the program in schools, were not fully assigned for the program, they had multiple duties which was confirmed by 2 SEN teachers in cycle 2 and 3, during the interview, and therefore, affect their role for appropriate documentation and tracking the effectiveness of the implementation.

Furthermore, the following themes that derived from analyzing data cross mixed methods helped in understanding the gap in schools' documents.

5.2.2. *Gifted Curriculum and Resources*

Referring to ADEK's hand book of 2017, and under the sub-tittle "Pilot Time Line", the Special Need Division during August 2016–July 2018 has to "Initiate introduction of exemplar Enrichment Units" (Special Education Division, 2017, p.7) with a partnership with United Arab Emirates University. Nevertheless, teachers of Cycle 1, 2, and 3 during the interview, confirmed not receiving any of these enrichment units from the gifted division in ADEK. All teachers and students in cycle 1 were deeply demanded for specific curriculum or units for gifted student specially after establishing self-contained classes for them, cycle 2 teachers who were participating in gifted program from ADEK also had the same concerns, although the special need teacher (S.E.N.) told the researcher that gifted cluster classes were been established but by the ministry of education where all high achiever in mathematics and science were combined in one class and supplied with specialized curriculum, which is not relevant to the ADEK pilot program, but gifted students still being pulled out of their classes after an agreement by their teachers to the innovation room to practice more on different projects. Teacher, administrators and students in Cycle 3 confirmed the curriculum's unavailability, but found that regular curriculum in general classes is challenging for all students and gifted because science, technology, engineering and mathematics make up to 50 percent of secondary school curriculum (The National, 2015), which was the most effective standard among others in the cycle 3 questionnaire, comparing with the other 2 cycles.

The absenteeism of special curricula also confirmed during the classroom observation in cycle 1 & 3 that cycle 2 was different as previously stated, but the researcher observed these classes in any way because students who were nominated at the beginning of implementing the program (2016-2017) were mostly joined these cluster classes and observing their teachers instruction and the degree of their participation in classes with the availability of specialized curriculum were a good chance for the researcher to discover this new trend in gifted education in ADEK after merging with ministry of education.

Moreover, teachers in the questionnaires at Cycle 1, and 2 lack the "opportunity to adapt, modify, or replace the core or standard curriculum to meet the needs of students with gifts and talents and those with special needs such as twice-exceptional, and highly gifted". But, Cycle 3 found having "the opportunity to design curricula in cognitive, affective, aesthetic, social, and leadership domains that are challenging and effective for students with gifts and talents" as a weak area.

Teachers also asked for adequate curriculum resources, especially in cycle 1 & 2, confirming that insufficient resources stand as an obstacle in their implementation of the program, which does not consist with administrators' perceptions, who indicated that "supporting gifted programs through equitable allocation of resources and demonstrated willingness to ensure that learners with gifts and talents receive appropriate educational services" by themselves as the most effective indicator regarding to program implementation.

Nevertheless, and regardless of the lack of curriculum and the resources, teachers confirmed their efforts to enrich and differentiate their regular curriculum and specifically in cycle 1, where students asserted that and appreciated their teachers' efforts on doing so, which consorted with administrators' perception on the questionnaires when they had chosen the use of "enrichment options by teachers to extend and deepen learning opportunities within and outside of the school setting", as one of the most effective indicator in the program.

A close look on the curriculum changes at ADEK will help in explaining the lack of oriented curriculum to pilot schools in Al-Ain region. According to ADEK, the 10 years P-12 strategic plan(2009-1018) is centered around designing and implementing of "New school model", which is mainly based on "student-centered learning approach" and "Within this model, a new curriculum and new teaching methods are introduced in order to enhance student performance by developing the student as a communicator, a thinker and a problem solver" (ADEK,p.3 of 4). So, during the academic year 2010-2011, this initiative had been started with KG-grade3, then

moved on to upper grades. By 2013-2014, ADEK lunched another initiative including changing English and Science textbooks across kindergarten to grade 5, as well as presenting new subject with some curriculum changes in grade 6 (Gulf News 2013). In 2015, ADEK announced another major change in curriculum in cycle 3, where a unified curriculum through two streams (humanities and scientific) emerged (Emirates News Agency 2015), because within this system higher school students will receive "fundamental skills and experiences that will help enhance their chances of joining higher education institutes without the need to take a foundation programme, or assume a job in mostly needed scientific areas such as science, technology and engineering, which play a vital role in achieving the goals of Abu Dhabi's Economic Vision 2030." said Dr Najwa Al Hosani, ADEK's curriculum division manager" (Pennington 2015, p.2). Last change happened in 2017-2018, where a new system was adopted between the ministry of education and ADEK to standardize education in UAE and "to support a unified and highly-performing education sector across the nation" (Khaleej Times 2017). So, obviously, all these continuing changes affect developing any new curriculum or enrichment units for gifted and talented students to support teachers in their schools. More reasons behind obstacles teachers face in the implementation of the could be summarized as inadequate professional development as appeared from all collected data, being not full time assigned to teaching gifted and talented as two teachers complained and S.E.N, and the obligation to teach unified outcomes and regular curriculum received from ADEK in school year 2016-2017 and ministry of education at 2017-2018, because all students, regardless of their different abilities, will be subject to a standardized test, which in turn puts teachers under accountability if not committed to fulfill the regular curriculum requirements, as shown during the interviews with teachers, mainly in cycle 1, 2 & 3, and focus group in cycle 1 & 3.

5.2.3. *The Assessment*

Students had to meet for eligibility, which widens the identification pool, and criteria were under debate. According to a bunch of educators in three cycles during the

interviews, tools were not accurate for many reasons, such as some achievement tests (EMSA and PIPS) being multiple choice style which mostly gave more chances for luck. Additionally, these tests are easy to take which cannot be considered as a solid ground to distinguish gifted students among others. Plus, some students are not good test takers, so some are still not recognized as gifted in regular classrooms. Finally, such tests are incapable to capture all shapes of giftedness for them being academic tests, which was confirmed by two focus groups in cycle 1 who were sure about ineligibility of some students of joining the program and others in regular classes have to be in.

The questionnaires reflected these concerns regarding the identification process and tools. For instance, cycle 1 teachers who were less concerned regarding the identification tools highlighted the lack of the opportunity to "ensure that the assessments used in the identification and evaluation processes were reliable and valid for each instrument's purpose, that allows for above-grade-level performance, and allows for diverse perspectives", while indicating a third rank in cycle 2 and the second in cycle 3.

A quick review of the assessment process at ADEK is mandatory to understand the nature of assessments used in the identification and to measure students' performance. According to ADEK, two assessment methods are used, which are school based assessment, developed by teachers, and standardized assessment, including national and international assessments. The national assessments consist of EMSA and PIPS. EMSA (External Measure of Student Achievement), conducted from grade 3 to grade 12 in reading and writing in English and Arabic languages, mathematics, and science which is only tested from grade 3 till 9. "EMSA tests consist of multiple-choice questions for English and Arabic Reading, Science and Mathematics together with open-ended writing and student-response questions for English and Arabic Writing and Science and Mathematics; The open-ended responses are marked by subject specialists"(ADEK ,p.1). PIPS (Performance Indicators in Primary Schools) are conducted from KG1 to grade 2 to measure Mathematics,

Reading and Phonological awareness. So, these two national assessments are mixed styles; multiple choice and open-ended questions and marked by professionals, to ensure their reliability and trustworthiness. Furthermore, the possibilities to get 90% as an overall average in all subjects or 95% in one of them as required, is not easy to earn.

More emphasis was given to two subjects, which are Mathematics and Science, as criteria to choose the gifted and talented was under debate from 2 teachers in cycle 2 because gifts are diversified, and these two subjects were taught also on the second language which makes the discovering of gifted more difficult, especially for students who face obstacles in learning the second language. These emphases on scientific subjects and English language are part of ADEK's strategic plan, and schools are obliged to implement the plan. Dr. Najwa Al Hosani, ADEK's curriculum division manager, said that "We need the student to be able to communicate using both languages and be proficient also in applying those languages on the daily basis", "We need them to be able to present something in English, be confident with their proficiency and be able to correctly communicate with others." (Pennington 2015, p.2 of 2).

IQ tests and the cutoff score were also under disagreement by 2 teachers in cycle 2 and the A.V.P in cycle 3, who found these criteria as unable to capture the hidden abilities and not equitable for those who got one or two scores below the cutoff score of 120. Areas like leadership, music, art, and others were not recognized, and more focuses were on the academic and intellectual abilities.

Teachers' participation in nomination was critical in the identification process because they know their students very well as indicated in the interviews, although a teacher in cycle 1 was not satisfied from other teachers' nominations because their perception regarding the giftedness characteristics were not sufficient or accurate, which in turn affects the quality of the class. On other hand, two teachers in cycle 2, and 1 in cycle 3, indicated that they were not fully aware about the full procedures

used in the identification process, and don't know how some students joined the program, although they were not eligible which confirmed also by other two educators in cycle 1.

Furthermore , the creativity criterion was not considered in cycle 2 & 3, while cycle 1, according to SEN teacher, was utilized and considered during the identification, but the product assessment forms were not documented, and the products itself was not presented, thus and consequently, other students were also deprived from joining the program regarding their creativities.

Parents' participated in the identification in cycle 1, according to Hof & S.E.N teacher, and their nomination forms were also documented. Parents sometimes opened teachers' eyes on the strength areas of hidden characteristics of their children and not recognized by their teachers. On the other hand, some parents according, to 2 teachers in cycle 1, were starving for enrolling their children to the program as a kind of prestige, while others refused their children to get in the program because they were afraid from envy.

As presented earlier, the documents didn't present any evidences about gifted students' progress in specific area after joining the program. Educators and students were concordant on student's improvement. Teachers develop various assessments to measure students' growth and nothing specific about assessment for gifted had been received from ADEK. Also, students in all focus groups in cycle 1 & 3, pointed to their teachers' efforts to develop assessments and differentiate it by adding some challenging questions for them. In the questionnaire, more clarity of assessment was shown. Cycle 1 and cycle 2 teachers, regarding the questionnaire, found the using "off-level standardized assessments to measure the progress of students with gifts and talents", as an area that needs more attention, and cycle 3 asserted that they lack the opportunity to "ensure that the assessment of the progress of students with gifts and talents uses multiple indicators that measure mastery of content, higher level thinking skills, achievement in specific program areas, and affective growth". All these issues

in assessments led to make students' growth vague, which intuitively affected by the wave of changes occurred in the curriculum as discussed before, deficiencies in professional development and waves of changes in the whole organization of ADEK.

Program evaluation in 2016-2017 was also not documented in three schools, only one teacher indicated that an evaluation of the program in their school was implemented by Special Education Division, but they didn't receive the results or recommendations. Thus, the absenteeism of evaluation plan that appeared the degree of program components had influenced students-level outcomes, made the gaps in program getting deeper and weakens all efforts.

5.2.4. *Professional Development*

As per ADEK's policy and handbook (2017), the qualification of gifted teachers or regular teachers to be eligible for working with gifted and talented is to have knowledge and prior training and experience in teaching gifted, but no specific certification or diploma on gifted education is required. Although schools' documents showed decrees of invitations to attend several training and workshops on various subject regarding the program, educators in cycle 1, 2 & 3 recommended more training in gifted domain for instance developing enrichment units ,or compacting curriculum or acceleration, or even receiving courses or diploma in UAE University for better preparation. They also preferred specialists, who carry certain certificates or diplomas in the education of gifted. Mainly, this program is considered to be anew in ADEK schools, regardless of previous initiatives to serve talented students who were mainly academically superior.

Data in questionnaires indicate that teachers in cycle 1 & 3 seemed to not have the opportunity to "systematically participate in ongoing, research-supported professional development that addresses the foundations of gifted education, characteristics of students with gifts and talents, assessment, curriculum planning and instruction, learning environments, and programming", which can be interpreted from data interviews when teachers complained about full schedule and responsibilities. For

that, one teacher mentioned that more space should be given to teachers from the administrators to attend these meeting, because they were not always allowed to attend all training even with the existence of the school-based contact. Cycle 2 teachers have less awareness about organizations or institutions or publications in education of gifted, which resulted with little teacher recommendation about visiting schools outside UAE to learn best practices and convey their successful experience in gifted education to ADEK schools, or making cooperation with Hamdan bin Rashid Al Maktoum Center for Giftedness and Creativity to learn and then transfer their field experience in Dubai to Abu Dhabi public schools, as S.E.N teacher in cycle 1 recommended, all to guarantee effective implementation of this program. Furthermore, the Hof in cycle 1 and 2 teachers in cycle 2 asked for more training for parents to increase their awareness regarding their child needs and their roles at home and school.

5.2.5. *Program Effectiveness*

In general, the effectiveness of program implementation was also affected by various issued raised during analyzing data. First of all, administrators and teachers showed in the questionnaires deficiencies in their awareness and familiarity of ADEK pilot program policy, despite the availability and accessibility of these documents only at ADEK's official website and in school program documents, which consequently affected the effectiveness of the implementation of the pilot program. This shortage in awareness appeared as indicated previously in the assessment part where not all teachers know about the identification procedures. Thus, the need for more intensive workshops and training to all involved stakeholders to introduce the policy and all relevant procedures is recommended by participants.

Effective communication channels were recommended by educators in cycle 1 & 3 between pilot program schools for exchanging their experiences in implementing the program. Schools' document showed a minor number of these communications and there were invitations to attend presentation results for gifted and talented program,

site visits for gifted and talented pilot programs and visit a public school that implements "future problem-solving program".

Cluster grouping Model, and Resource Room/Pull-out Model, got different concerns. A teacher in cycle 1 found the Cluster grouping model prevents the regular classes from availability of a class model and good support for teachers and other students who need more help in the classrooms. On the other hand, the Hof and S.E.N teacher admired these classes in cycle 1 and found the pull-out wasn't a pleasant experience in cycle 1 in a previous year, because it is an effort and time consuming. Also, the A.V.P in cycle 3 supported these kinds of classes and admires them and wished if cycle 3 gifted students combined to gather in one class to make it easier for teachers. The special need teacher in cycle 2 still pulls out gifted students to the innovation room to work on different projects which preferred by the teacher who participated in pilot program.

Other program components consist of learning and development, programming, and learning environment from stakeholders' perceptions, and were collected from the questionnaires. In standard 1, learning and development, cycle 2 & 3 teachers agreed that having the opportunity to "provide a variety of research-based grouping practices for students with gifts and talents that allows them to interact with individuals of various gifts, talents, abilities and strengths" as the least effective among standard 1 items, which was obvious during the class observation. Cycle 1 teachers found the area of deficiency centered on the item that referred to lack of "implement a curriculum scope and sequence that contains person/social awareness and adjustment, academic planning, and vocational and career awareness by teachers and counselors". Vocational and career counselor position is not available in these pilot schools as confirmed by an educator in cycle 1, in addition to the position of the social worker providing guidance regarding careers for gifted and talented students.

Standard 4, learning environment, is the only standard that the three cycles agreed upon, and the item related to providing "opportunities for advanced development and

maintenance of first and second language(s)", proved as the least effective in the implementation. This was explained by 2 teachers in cycle 2 who had some concerns regarding teaching the scientific subjects with the second language which is difficult to excel and manifest their gifts and talents.

5.2.6. Meeting NAGC Programing Standards

The degrees of meeting the National Association of Gifted Children Programming Standards were derived from the whole data analysis and findings that been discussed in this section. The findings highlighted serious needs for growth regarding curriculum, assessment, professional development, and programming, as well as more attention to learning environment and learning and development standards. None of the standards got full consensus for the fourth among participants which in turn supported the data that collected from other methods. All these programing standards will be developed automatically if aforementioned components developed properly and adequately by program stakeholders and community collaboration.

This research study's findings are similar to some results with the first study conducted in Dubai public elementary schools, utilizing mixed research method to assess the needs for the provision of gifted education preferring NAGC standards as a framework (Al Ghawi, 2016). In her investigation, Al Ghawi (2016) found that more awareness should be spread about gifted education policy among both teachers and parents, evaluation of gifted programs should be done in schools , specialized curriculum should be implemented, training on the gifted education field should be conducted, more school counselors should guide students and parents, for effective gifted programs in schools.

5.2.7. Summary on the Key Finding

As clearly stated in this section, all analyzed data from mixed methods pointed to a serious demand towards developing the pilot program in all its aspects and

components depending on NAGC programming standards. The next section will present some useful recommendations and suggestions for program improvement.

5.3. Recommendations

Upon the research findings and discussion, the following recommendations have been made for program improvement:

1. *Developing an integrated curriculum for gifted and talented students*

   Any program in schools will not be beneficial and advantageous without an integrated curriculum including adequate resources and material, and if not supplemented with goals, objectives and learning outcomes that are aligned with gifted and talented various needs such as social, emotional, intellectual, and academic ones, and if not combined with well-designed assessment to measure students' progress in different areas regarding their gifts. These assessments range, according to NAGC, between "pre and post-performance-based assessments", "product-based assessments" and "off-level standardized assessments", to: "measure mastery of content, higher level thinking skills, achievement in specific program areas, and affective growth", so a full picture of the curriculum effectiveness can be captured, and an improvement plan can be put in place to guarantee best practices for gifted learners. Students' weakness and strengths should be derived from analyzing assessments data and should be documented with a profile for each student for prober intervention plan.

2. *Gifted Education Division's Possible Assignment to International Assessment* examples to that could be given such as PIRLS assessment (The Progress in International Reading Literacy Study) that tests reading achievement and reading behaviors and attitudes of fourth-grade students, PISA assessment (Program for International Student Assessment) that also should be tested every three years and is "an age-based survey, assessing 15-year-old students in school (grade seven or higher) to evaluate students proficiency in Mathematics, Science and reading, and TIMSS assessment (Trends in

International Mathematics and Science Study) tested for grade 4 & 8 (ADEK, 2018), as a strong tool in the identification process, because some educators pointed to deficiencies on one of assessment tool (a national assessment) that been used as criteria in the identification procedures, which is not considered accurate and easy to take as well as insufficient to reflect the real academic level of students.

3- *Supporting all stakeholders of comprehensive and intensive training on gifted and talented education*

Since teachers are not obliged to carry any certificate or diploma in gifted education, they have to get training on developing their own enrichment units, differentiating their instruction techniques, implementing different learning styles, adopting various instructional strategies, recognizing gifted and talented characteristics, and developing their own assessment. Parents, principals and the involved community should all also be included in this training to open their eyes on the importance of these programs and a partnership between schools and home is essential for succeed their children.

4- *Valuable investment:*

Graduated students from United Arab Emirates University in gifted education are a precious investment for effective implementation of the pilot program. However, additional matters need to be insured, such as training teachers in schools after receiving training from interested and authorized institutions in gifted education inside and outside the country, such as Hamdan bin Rashid Al Maktoum Center for Giftedness and Creativity and NAGC, teaching gifted and talented classes, leading authorized communication-network between gifted education division in ADEK and schools and assisting in creating school-based database of students, resulting in tracking their progression and opening more chances to exchange the best practices between schools. This recommendation will help in overcoming most obstacles teachers facing during their work with gifted and talented students because those specialized

graduated students are well trained and professionals and will assigned fully for the gifted and talented program.

5- *Establishing gifted committees across ADEK schools and community.*

This committee's role is to develop extra curriculum for gifted and talented out door schools to give gifted students more opportunities to meet their peers regarding their abilities, gifts, and interests for more effective development in various domains, as well as supporting students with future career counseling.

6- *Developing UAE national programming standards for gifted and talented education*

This should be done based on field research conducted mainly within the Arab or gulf area, to commensurate with these areas environment and culture, or through adopting NAGC programing standards and adjusting them based on the UAE nature.

5.4.   The Limitations

This study presented three types of limitations: Data collection limitations, educators' apprehension to respond and scarcity of relevant researches.

5.4.1. Data Collection Limitations

Some limitations were relevant to participants, where the research was conducted in three cycles at Al Ain region because they are the only pilot schools in Al Ain that implemented in two years, and all participants in cycle 2 & 3 were males and cycle 1 participant were almost males except four females involved in questionnaires only. Furthermore, the research sample didn't cover all stakeholders such as parents, program developers and policy makers in ADEK. These limitations would affect the external validity of the results that is the generalizability of results across all three cycles in ADEK.

5.4.2. Educator's Apprehension to Respond

Some educators refused, during the interview, to record some of their comments and requested for their comments not to be published. Others were reluctant and gave only brief answers, although the researcher confirmation the confidentiality of their identity.

5.5. Conclusion

All three cycles faced challenges in effectively implementing gifted and talented pilot program and in high standards according to NAGC programming standards. The challenges appeared in all program components. The deficiencies in curriculum, assessment, professional development, programming, learning and development and learning environment were manifested from the quantitative and qualitative data analysis. Stakeholders can overcome these challenges by developing national standards for gifted and talented education which is commensurate with the UAE environment and culture or adopt the NAGC programming standards and modify regarding the UAE nature, supporting schools with special integrated curriculum even under all rapid changes that occurred almost yearly at ADEK.

Professional development and organized and well-planned programs combined with learning outcomes are all crucial elements in the schools' program. Parents' involvements and community partnership are very supportive if more awareness about the nation treasure and their role in leading this country for further civilization and prosperity if a prober investment takes place in schools as an initial, decisive and irreplaceable stage.

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A%D8%A8%20%D8%B3%D9%8A%D8%A7%D8%B3%D8%A7%D8%AA
%20%D9%88%D8%A5%D8%AC%D8%B1%D8%A7%D8%A1%D8%A7%
D8%AA%20%D8%A7%D9%84%D8%AA%D8%B1%D8%A8%D9%8A%
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Appendix A: Email Requesting Permission for Applying Research on Public Schools

Good Evening Mr. xxxx xxxx,

My name is Serin Ghazi Budair (ID 14941) an employee (a teacher) in ADEC (or ADEK), and I am a master student trying to implement my dissertation on gifted and talented programs in ADEC. I have received the approval to start the research and already sent two emails to your principal, but unfortunately no responds. I have got your email from Dr. Sara Bond, who recommends your school with two others. Please, will you help me on this as soon as possible, no time only three weeks left.

Best regards,

Serin Ghazi Budair

Arabic Language teacher

xxx School C1

السلام عليكم ورحمة الله وبركاته

الأستاذ والمربي الفاضل مدير xxxx xxx المحترم

أرجو التكرم بالموافقة على تطبيق دراستي الخاصة برسالة الماجستير عن برامج الموهوبين في المدارس الحكومية في مدينة العين

مرفق لحضرتكم الموافقة الرسمية من دائرة التعليم والمعرفة

لكم مني أطيب التحيات

المعلمة سيرين غازي بدير

مدرسة   xxx   للتعليم الأساسي ح1

Appendix B: ADEK's Approval Letter

دائرة التعليم والمعرفة
DEPARTMENT OF EDUCATION
AND KNOWLEDGE

Date: 22nd October 2017
Ref: G152

التاريخ: 22 أكتوبر 2017
الرقم: G152

To: Public School Principals,

السادة/ مديري المدارس الحكومية

Subject: Letter of Permission

الموضوع: تسهيل مهمة باحثين

Dear Principals,

تحية طيبة وبعد،،،

The Department of Education would like to express its gratitude for your generous efforts & sincere cooperation in serving our dear students.

يطيبُ لدائرة التعليم والمعرفة أن يتوجه لكم بخالص الشكر والتقدير لجهودكم الكريمة والتعاون الصادق لخدمة أبنائنا الطلبة.

You are kindly requested to allow the researcher/ **Serin Ghazi Amin Budair** , to complete her research on:

ونود إعلامكم بموافقة دائرة التعليم والمعرفة على موضوع الدراسة التي ستجريها الباحثة/ سيرين غازي أمين بدير ، بعنوان:

examining the implementation of gifted and talented programs in ADEC public school

examining the implementation of gifted and talented programs in ADEC public school

Please indicate your approval of this permission by facilitating her meetings with the sample groups at your respected schools.

لذا، يرجى التكرم بتسهيل مهمة الباحثة ومساعدتها على إجراء الدراسة المشار إليها.

For further information: please contact **Mr Helmy Seada** on 02/6150140

للاستفسار: يرجى الاتصال بالسيد/ حلمي سعدة على الهاتف 02/6150140

Thank you for your cooperation.

شاكرين لكم حسن تعاونكم

Sincerely yours,

وتفضلوا بقبول فائق الاحترام والتقدير،،،

أ.د. مسعود عبد الله بدري
مدير وحدة البحوث والتخطيط وقياس الأداء

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Appendix C: Gifted Teachers Survey – Cycle 1, 2 & 3 schools

Please indicate the extent do you agree with the frequency of gifted standard behaviors for each issue.

	Question			
Standard 1: Evidence Based Practices	To what extent do we engage in this behavior or address this issue ?			
Gifted Education Program Standard 1: Learning and Development	Not at all	Some Evidence	Adequate Extent	To a great extent
EVIDENCE-BASED PRACTICES IN MY SCHOOL				
I am aware of the ADEC gifted and talented pilot program policy.				
I am familiar with ADEC gifted and talented pilot program policy.				
1.1.1 I have the opportunity to engage students with gifts and talents in identifying interests, strengths, and gifts.				
1.1.2 I have the opportunity to assist students with gifts and talents in developing identities supportive of achievement				
1.2.1 I have the opportunity to develop activities that match each student's developmental level and culture-based learning needs.				
1.3.1 I have the opportunity to provide a variety of research-based grouping practices for students with gifts and talents that allow them to interact with individuals of various gifts, talents, abilities and strengths.				
1.3.2. I have the opportunity to model respect for individuals with diverse abilities, strengths, and goals.				
1.4.1 I have the opportunity to provide role models (e.g., through mentors, bibliotherapy) for students with gifts and talents that match their abilities and interests.				
1.4.2 I have the opportunity to identify out-of-school learning opportunities that match their				

abilities and interests				
1.5.1. I have the opportunity to collaborate with families in accessing resources to develop their child's talents				
1.6.1. I have the opportunity to design interventions to develop cognitive and affective growth that are based on research of effective practices.				
1.6.2. I have the opportunity to develop specialized intervention services for students with gifts and talents who are underachieving and are now learning and developing their talents.				
1.7.1 I have the opportunity to enable students to identify their preferred approaches to learning, accommodate these preferences, and expand them.				
1.8.1. I have the opportunity to provide students with college and career guidance that is consistent with their strengths.				
1.8.2. Teachers and counselors implement a curriculum scope and sequence that contains person/social awareness and adjustment, academic planning, and vocational and career awareness.				

	Question			
Standard 2: Assessment	To what extent do we engage in this behavior or address this issue ?			
Gifted Education Program Standard 2: Assessment	Not at all	Some Evidence	Adequate Extent	To a great extent
EVIDENCE-BASED PRACTICES IN MY SCHOOL				
2.4.1. I have the opportunity to use differentiated pre- and post- performance-based assessments to measure the progress of students with gifts and talents.				
2.4.2. I have opportunity to use differentiated product-based assessments to measure the progress of students with gifts and talents.				
2.4.3. To what extent do educators use off-level standardized assessments to measure the progress of students with gifts and talents.				

2.4.4. I have the opportunity use and interpret qualitative and quantitative assessment information to develop a profile of the strengths and weaknesses of each student with gifts and talents to plan appropriate intervention				
2.4.5. I have the opportunity to communicate and interpret assessment information to students with gifts and talents and their parents/guardians.				
2.5.1. I have the opportunity to ensure that the assessments used in the identification and evaluation processes are reliable and valid for each instrument's purpose, allow for above-grade-level performance, and allow for diverse perspectives.				
2.5.2. I have the opportunity to ensure that the assessment of the progress of students with gifts and talents uses multiple indicators that measure mastery of content, higher level thinking skills, achievement in specific program areas, and affective growth.				
2.5.3. I have the opportunity to assess the quantity, quality, and appropriateness of the programming and services provided for students with gifts and talents by disaggregating assessment data and yearly progress data and making the results public.				
2.6.1. The Administrators provide the necessary time and resources to implement an annual evaluation plan developed by persons with expertise in program evaluation and gifted education.				
2.6.2. The evaluation plan is purposeful and evaluates how student-level outcomes are influenced by one or more of the following components of gifted education programming: (a) identification, (b) curriculum, (c) instructional programming and services, (d) ongoing assessment of student learning, (e) counseling and guidance programs, (f) teacher qualifications and professional development, (g) parent/guardian and community involvement, (h) programming resources, and (i) programming design, management, and delivery.				
2.6.3. The educators disseminate the results of the evaluation, orally and in written form, and explain how they will use the results.				

	Question			
Standard 3: Curriculum Planning and Instruction	To what extent do we engage in this behavior or address this issue ?			
Gifted Education Program Standard 3: Curriculum Planning and Instruction	Not at all	Some Evidence	Adequate Extent	To a great extent
EVIDENCE-BASED PRACTICES IN MY SCHOOL				
3.1.1. I have the opportunity to use national standards to align and expand curriculum and instructional plans.				
3.1.2. I have the opportunity to do design and use a comprehensive and continuous scope and sequence to develop differentiated plans for students with gifts and talents.				
3.1.3. I have the opportunity to adapt, modify, or replace the core or standard curriculum to meet the needs of students with gifts and talents and those with special needs such as twice-exceptional, and highly gifted.				
3.1.4. I have the opportunity to design differentiated curricula that incorporate advanced, conceptually challenging, in-depth, distinctive, and complex content for students with gifts and talents.				
3.1.5. I have the opportunity to design a balanced assessment system, including pre-assessment and formative assessment, to identify students' needs, develop differentiated education plans, and adjust plans based on continual progress monitoring				
3.1.6. To what extent do use pre-assessments and pace instruction				

based on the learning rates of students with gifts and talents and accelerate as appropriate.				
3.1.7. To what extent do use information and technologies, including assistive technologies, to individualize for students with gifts and talents, including those who are twice-exceptional.				
3.2.1. I have the opportunity to design curricula in cognitive, affective, aesthetic, social, and leadership domains that are challenging and effective for students with gifts and talents.				
3.2.2. I have the opportunity to use metacognitive models to meet the needs of students with gifts and talents.				
3.3.1. I have the opportunity to select, adapt, and use a repertoire of instructional strategies and materials that differentiate for students with gifts and talents and that respond to their diversity.				
3.3.2. I have the opportunity to use school and community resources that support differentiation.				
3.3.3. I have the opportunity to provide opportunities for students with gifts and talents to explore, develop, or research their areas of interest and/or talent.				
3.4.1. I have the opportunity to use critical-thinking strategies to meet the needs of students with gifts and talents.				
3.4.2. I have the opportunity to creative-thinking strategies to meet the needs of students with gifts and talents.				
3.4.3. I have the opportunity to use problem-solving models strategies to meet the needs of students with gifts and talents.				
3.4.4. I have the opportunity to use inquiry models to meet the needs of students with gifts and talents.				
3.5.1. I have the opportunity to develop and use challenging, culturally responsive curriculum to engage all students with gifts and talents.				
3.5.2. I have the opportunity to integrate career exploration experiences into learning opportunities				

for students with gifts and talents, e.g. biography study or speakers.				
3.5.3. I have the opportunity to use curriculum for deep explorations of cultures, languages, and social issues related to diversity.				
3.6.1. Teachers and administrators demonstrate familiarity with sources for high-quality resources and materials that are appropriate for learners with gifts and talents.				

	Question			
Standard 4	To what extent do we engage in this behavior or address this issue ?			
Gifted Education Program Standards 4: Learning Environments	Not at all	Some Evidence	Adequate Extent	To a great extent
EVIDENCE-BASED PRACTICES IN MY SCHOOL				
4.1.1. I have the opportunity to maintain high expectations for all students with gifts and talents as evidenced in meaningful and challenging activities.				
4.1.2. I have the opportunity to provide opportunities for self -exploration, development and pursuit of interests, and development of identities supportive of achievement, e.g., through mentors and role models.				
4.1.3. I have the opportunity to create environments that support trust among diverse learners.				
4.1.4. I have the opportunity to provide feedback that focuses on effort, on evidence of potential to meet high standards, and on errors as learning opportunities.				
4.1.5. I have the opportunity to provide examples of positive coping skills and opportunities to apply them.				
4.2.1. I have the opportunity to understand the needs of students with gifts and talents for both solitude and social interaction.				
4.2. 2. I have the opportunity to provide opportunities for interaction with intellectual and				

artistic/creative peers as well as with chronological-age peers.				
4.2.3. I have the opportunity to assess and provide instruction on social skills needed for school, community, and the world of work.				
4.3.1 I have the opportunity to establish a safe and welcoming climate for addressing social issues and developing personal responsibility.				
4.3.2. I have the opportunity to provide environments for developing many forms of leadership and leadership skills.				
4.3.3. I have the opportunity to promote opportunities for leadership in community settings to effect positive change.				
4.4.1. I have the opportunity to model appreciation for and sensitivity to students' diverse backgrounds and languages.				
4.4.2. I have the opportunity to sanction discriminatory language and behavior and model appropriate strategies.				
4.4.3. I have the opportunity to provide structured opportunities to collaborate with diverse peers on a common goal.				
4.5.1. I have the opportunity to provide opportunities for advanced development and maintenance of first and second language(s).				
4.5.2. I have the opportunity to provide resources to enhance oral, written, and artistic forms of communication, recognizing students' cultural context.				
4.5.3. I have the opportunity to ensure access to advanced communication tools, including assistive technologies, and use of these tools for expressing higher-level thinking and creative productivity.				

	Question
Standard 6	To what extent do we engage in this behavior or address this issue ?

Gifted Education Program Standard 6: Professional Development	Not at all	Some Evidence	Adequate Extent	To a great extent
EVIDENCE-BASED PRACTICES IN MY SCHOOL				
6.1.1. I have the opportunity to systematically participate in ongoing, research- supported professional development that addresses the foundations of gifted education, characteristics of students with gifts and talents, assessment, curriculum planning and instruction, learning environments, and programming.				
6.1.2. The school district provides professional development for teachers that models how to develop environments and instructional activities that encourage students to express diverse characteristics and behaviors that are associated with giftedness.				
6.1.3. I have the opportunity to participate in ongoing professional development addressing key issues and trends in gifted education such as anti-intellectualism and equity and access.				
6.1.4. The administrators provide human and material resources needed for professional development in gifted education (e.g. release time, funding for continuing education, substitute support, webinars , or mentors).				
6.1.5. I have the awareness of other organizations and publications relevant to gifted education to promote learning for students with gifts and talents.				
6.2.1. I have the opportunity to participate in ongoing professional development to support the social and emotional needs of students with gifts and talents.				
6.3.1. I have the opportunity to assess my instructional practices and continue their education in school district staff development, professional organizations, and higher education settings based on these assessments.				
6.3.2.I have the opportunity to participate in professional development that is sustained over time, that includes regular follow-up, and that seeks evidence of impact on teacher practice and on				

student learning.				
6.3.3. I have the opportunity to use multiple modes of professional development delivery including online courses, online and electronic communities, face-to-face workshops, professional learning communities, book talks, etc.				
6.3.4. I have the opportunity to identify and address areas for personal growth for teaching students with gifts and talents in their professional development plans.				
6.4.1. I have the opportunity to respond to cultural and personal Frames of reference when teaching students with gifts and talents.				
6.4.2. I comply with rules, policies, and standards of ethical practice.				

Appendix D: Principal, HOFs (Head of Faculty), VP& AVPs' Survey – Cycle 1, 2 & 3 Schools

Please indicate the extent do you agree with the frequency of gifted standard behaviors for each issue.

	Question			
Standard 5	To what extent do we engage in this behavior or address this issue ?			
Gifted Education Program Standard 5: Programming	Not at all	Some Evidence	Adequate Extent	To a great extent
EVIDENCE-BASED PRACTICES IN MY SCHOOL				
-To what extent are you aware of the ADEC gifted and talented pilot program policy.				
- To what extent are you familiar with ADEC gifted and talented pilot program policy .				
5.1.1. To what extent do educators regularly use multiple alternative approaches to accelerate learning.				
5.1.2. To what extent do educators regularly use enrichment options to extend and deepen learning opportunities within and outside of the school setting.				
5.1.4. To what extent do educators regularly use individualized learning options such as mentorships, internships, online courses, and independent study.				
5.1.3. To what extent do educators regularly use multiple forms of grouping, including clusters, resource rooms, special classes, or special schools.				
5.1.5. To what extent do educators regularly use current technologies, including online learning options and assistive technologies to enhance access to high level programming .				
5.1.6. To what extent do Administrators demonstrate support for gifted programs through equitable allocation of resources and demonstrated willingness to ensure that learners with gifts and talents receive appropriate educational services.				

5.2.1. To what extent do educators in gifted, general, and special education programs, as well as those in specialized areas, collaboratively plan, develop, and implement services for learners with gifts and talents.				
5.3.1. To what extent do educators regularly engage families and community members for planning, programming, evaluating, and advocating.				
5.4.1. To what extent do Administrators track expenditures at the school level to verify appropriate and sufficient funding for gifted programming and services.				
5.5.1. To what extent do educators develop thoughtful, multi-year program plans in relevant student talent areas.				
5.6.1. To what extent do educators create policies and procedures to guide and sustain all components of the program, including assessment, identification, acceleration practices, and grouping practices, that is built on an evidence-based foundation in gifted education.				
5.7.1. To what extent do educators provide professional guidance and counseling for individual student strengths, interests, and values.				
5.7.2. To what extent do educators facilitate mentorships, internships, and vocational programming experiences that match student interests and aptitudes.				

Appendix E: The William and Mary Classroom Observation Scales (Part 2)

By Joyce VanTassel-Baska, Ed.D., Linda Avery, Ph.D., Jeanne Struck, Ph.D., Annie Feng, Ed.D., Bruce Bracken, Ph.D. , Dianne Drummond, M.Ed., Tamra Stambaugh, M.Ed

Directions: Please employ the following scale as you rate each of the checklist items. Rate each item according to how well the teacher characteristic or behavior was demonstrated during the observed instructional activity. Each item is judged on an individual, self-contained basis, regardless of its relationship to an overall set of behaviors relevant to the cluster heading.

3=Effective	2=Somewhat Effective	1=Ineffective	N/O = Not Observed		
The teacher evidenced careful planning and classroom flexibility in implementation of the behavior, eliciting many appropriate student responses. The teacher was clear, and sustained focus on the purposes of learning.	The teacher evidenced some planning and/or classroom flexibility in implementation of the behavior, eliciting some appropriate student responses. The teacher was sometimes clear and focused on the purposes of learning.	The teacher evidenced little or no planning and/or classroom flexibility in implementation of the behavior, eliciting minimal appropriate student responses. The teacher was unclear and unfocused regarding the purpose of learning.	The listed behavior was not demonstrated during the time of the observation. (NOTE: There must be an obvious attempt made for the certain behavior to be rated "ineffective" instead of "not observed".)		
General Teaching Behaviors					
Curriculum Planning and Delivery	3		2	1	N/O
The teacher…					
1. set high expectations for student performance.					
2. incorporated activities for students to apply					
3. engaged students in planning, monitoring or assessing their learning.					
4. encouraged students to express their thoughts.					
5. had students reflect on what they had learned.					
Comments:					
Differentiated Teaching Behaviors					
Accommodations for Individual	3		2	1	N/O
The teacher…					
6. provided opportunities for independent or group learning to promote					

7. accommodated individual or subgroup differences (e.g., through individual conferencing, student or teacher choice in material selection and task assignments.)				
8. encouraged multiple interpretations of events and situations.				
9. allowed students to discover key ideas individually through structured activities and/or questions.				
Comments:				

Problem Solving	3	2	1	N/O
The teacher…				
10. employed brainstorming techniques.				
11. engaged students in problem identification and definition				
12. engaged students in solution-finding activities and comprehensive solution articulation.				
Comments:				

Critical Thinking Strategies	3	2	1	N/O
The teacher…				
13. encouraged students to judge or evaluate situations, problems, or				
14. engaged students in comparing and contrasting ideas (e.g., analyze generated ideas)				
15. provided opportunities for students to generalize from concrete				
16. encouraged student synthesis or summary of information within				
Comments:				

Creative Thinking Strategies	3	2	1	N/O
The teacher…				
17. solicited many diverse thoughts about issues or ideas.				
18. engaged students in the exploration of diverse points of view to reframe ideas.				
19. encouraged students to demonstrate open-mindedness and tolerance of imaginative, sometimes playful solutions				

	3	2	1	N/O
20. provided opportunities for students to develop and elaborate on their ideas.				

Comments:

Research Strategies	3	2	1	N/O
(It is atypical for these to be observed in one session. Some teachers, however, may use Items #21-25 within a single				
The teacher…				
21. required students to gather evidence from multiple sources through research-based techniques (e.g., print, non-print, internet, self- investigation via surveys, interviews, etc.).				
22. provided opportunities for students to analyze data and represent it in appropriate charts, graphs, or tables.				
23. asked questions to assist students in making inferences from data and drawing conclusions.				
24. encouraged students to determine implications and consequences of findings.				
25. provided time for students to communicate research study findings to relevant audiences in a formal report and/or presentation.				

Comments:

Additional Comments

Appendix F: Interview Questions

Thank you for accepting to do this interview. I am a master student at BUID

University with an interest in gifted education. Please base your responses on individual experiences, perceptions, and opinions.

1. What are your perceptions of the ADEK pilot gifted program?
2. How effective do you think the identification process is?
3. How effective is the curriculum in the ADEK pilot gifted programs?
4. How effective is the instruction in the program?
5. How effective is the assessment system used to evaluate gifted student learning?
6. What are the major strengths of the program from your perspective?
7. What are the major weaknesses of the program from your perspective?
8. How can ADEK improve the program of gifted and talented ?(this question had been added by me to answer the last main question).