

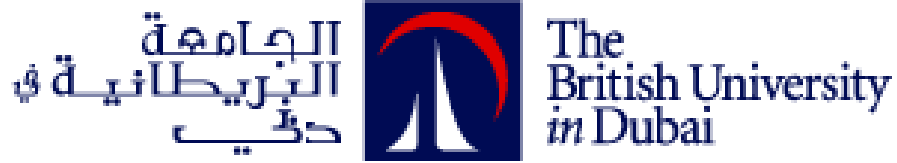


Is Academic Excellence in School Children Based on IQ: A review of private schools in Dubai regarding the gifted and talented.

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Institute of Education

June 2010



Is Academic Excellence in School Children Based on IQ:
A review of private schools in Dubai regarding
the gifted and talented

By

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June, 2010

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ABSTRACT

Is Academic Excellence in School Children Based on IQ: A review of private schools in Dubai regarding the gifted and talented

Dubai has earned the repute of being ahead in every respective field from financial services to education and life style. Yet an important area in the education systems in Dubai, needs attention: assessments, acknowledgement and provisions for the gifted and talented students studying in private schools go unnoticed most of the times. This research paper was conducted to gain a firsthand account regarding the presence of gifted children in Dubai's private schools. Furthermore a research is conducted to find out that, what are the assessments and provisions for the gifted children studying in the private schools of Dubai. With the help of Raven's Progressive Matrices, 2 small populations of 15 students were tested; once from grade 5th and once from grade 6th, to analyse the relationship between IQ scores and scholastic achievement. On getting a positive co relation, the high IQ children were observed on a checklist by the researcher, their class teachers were interviewed, their parent were interviewed too, regarding the policies for their children. It was found that these children had formal assessments from outside the school, formal assessment centres and they did stand among the high IQ group of children. Checklists were filled by teachers and parents to get further knowledge regarding their abilities. Ten schools were selected, on basis of their curriculum, and each school obtained questionnaires filled by the principal, 2 teachers, 2 social workers working in those private schools. Extensive research was able to generate data and research that pointed in just one direction, "the urgent need for acknowledgement, assessments, and provisions for the gifted and talented children studying in Dubai's private schools". This will not only reduce the commercialization aspect that is a major problem felt by KHDA head, Dr. Abdullah Al Karam but also introduce more specialization and better care for the children studying in the private schools of Dubai.

DEDICATION

This dedication goes to all the children studying in the mainstream schools in Dubai; to those whose needs are being met and to those whose needs are not being met, the high IQ children. Whose emotional and intellectual capacities await the guidance and provisions to help them fulfil their potential and to help them to stop going astray in the path of life.

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Is Academic Excellence in School Children Based on IQ:

A review of private schools in Dubai **regarding** **the gifted and talented**

Chapter 1 Introduction

1.1 Introduction :

Education for the profoundly gifted and talented has gained more importance in this century, like never before. The word 'giftedness' was accepted and acknowledged, even before it was given importance and acknowledgement by educationalists. Yet it was in the late 1800s when a clear interest was shown by educationalists and psychologists around the world. Since then major developments have been made in the field of intelligence and its relationship to academic ability.

Dubai has come a long way from being a pearling village to a trading hub of international repute. It has entered the 21st century being a leader in logistics, tourism, sound financial institutions, building of infrastructure and real estate. Education that is the key investment and the key to success for the developed economies of the world place a lot of importance to develop their education providers and education seekers and consider it to be an economic wealth leading to progress and increase in economic soundness and development. Dubai being a major international hub due to its strategic position geographically and due to its importance to the world in trade and tourism has attracted a lot of international population. A vast number of private schools have arisen on Dubai's educational horizon. The researcher, being a teacher for nearly a decade in two of Dubai's

private schools as well as being a student for Med has brought forth to me the importance of the negligence towards some very important factors in Dubai's private schools. As admitted by the head of KHDA, Dr Abdullah Al Karam regarding the 'over commercialization' of Dubai's schools.(Attwood, 2010). The need to educate and nurture the needs of the gifted and talented have totally been side lined and often the frustration of the student translates into many different problems for everybody. I once found a student, already tested as being high IQ by outside-the –school formal assessment bodies, (through his parents) to start failing and neglecting studies so badly. I tutored the student personally for a while only to find that he was bored with the content of his present books. He ignored his books because they were too mundane, routine and unchallenging for him. The school authorities were not interested to look into the problem and the researcher was told that it was his parent's responsibility since the school lacked resources, therefore the only solution for the parents was to move him to another private school. According to the KHDA chief Dubai school fees have gone up by double digits in the past 3 years.(Attwood, 2010). However this is not the answer or solution for the gifted and talented children in the private schools, there should be better accommodation to their needs in these schools in terms of attention to their set of needs. According to Sheikh Mohammed bin Rashid Al Maktoum, the ruler of Dubai, hundreds of billions of dirham have been spent on education, health care and the different societal aspects of life in the UAE. Education however has top priority. Budget in this area has been increasing annually for the past 20 years, and funding is not the problem. The problem lies the in obsolete teaching methods, lack of innovation and the old fashioned teaching techniques that focuses on memorization instead of research. The current education systems are compiling heavy losses to the UAE and its people.(Salama, 2009).

A report conducted by Khaleefa, Omar and Lynn, Richard generated some thought worthy results. According to the research as far as the per capita income of UAE was concerned it

was equal to the per capita income of Western Europe but the average IQ calculated was similar to that of much poorer countries in the Middle East (countries that have one tenth of the UAE's per capita for example Syria). There was a time, around the end of the twentieth century that IQ in western countries and Britain was a bit lower than that in the UAE.

However the study anticipated that since Western Europe has grown in IQ levels since 1917, along with its economic prosperity, so UAE will also follow that path and UAE's economic growth too, will push its intelligence level higher. (Khaleefa, Richard, 2008).

1.2 Statement of the Problem :

No doubt, children are the wealth and future of every family, every nation and of this whole wide world. If the skills and talents of today's children are nurtured then we are ensuring the future of everybody and our wealth is safe. Therefore it is imperative that we do not ignore the gifted and talented children among us. Gifted and talented children when understood, recognized and nurtured, no doubt, are the wealth of the whole world. (The New Tribune, 2009). Also this saves these children from developing behavioural disorders, because when unrecognized these children stand at a greater risk of developing emotional and behavioural problems due to the extraordinary sensitivity present in their characters. Private Schools in the UAE constitute a major portion of school education in the UAE. This research is based on developing a co-relation between IQ and academic excellence in school children (ages 8-11). Furthermore a research is done on the recognition, acknowledgement and enhancement of the gifted and talented in the Private Schools in Dubai.

1.3 Background of the Research:

Dubai is one state out of the seven different states of UAE namely: Abu Dhabi, Sharjah, Umm al Quwain, Raas Al Khaimah, Fujairah, and Al Ain. The total population of UAE is 4.7million: of which 3.8 million is the expatriates and 892,000 is the citizens of UAE. Abu Dhabi being 1.5 million, Sharjah: 946,000 people, Ajman: 237,000 people, Ras al Khaimah: 241,000 people, Fujairah: 152,000 people, and Um al Quwain: 56,000 people. According to the Dubai Statistics Centre, Dubai is the most populated City/state of UAE, boasting a population of more than 1.7 million people. 10% of which are nationals and 90% of which are expatriates. Dubai is the most populous emirate now having overtaken Abu Dhabi (the second most populous emirate and the largest by area) at the end of 2008. Due to a wide variety of ethnicity in the population, great lengths have been reached to accommodate all these different nationalities as per their needs by offering a wide variety of goods and services. There is extreme tolerance for all the cultures and the needs for a widely diversified population are sensitively tended to, in Dubai. (UAE Year Book, 2009). One of these services is the school or education sector, offering a wide variety of choice keeping in mind the population diversity.

1.3.1 Education in the UAE:

Since our research is limited to Dubai in the UAE, let us take a closer look at the city/state, in terms of education. The current education system was formed in the 1970s. Education in Dubai has evolved from its simple traditional existence to the one at present in line with international standards. The educational evolution of Dubai started when the federation of UAE was declared on December 2, 1971. Several ministries were set up including the Education ministry to oversee the progress of education. Since then education has come a

long way, many tasks have been accomplished, there are many firsts attached to Dubai's name when it comes to education in the Arab region, (a recent example is the DSIB's school survey reports) yet there are many milestones still to be achieved.(Government of Dubai, 2010). The school going population of Dubai is divided into 2 parts, those who prefer the state run public schools and those who chose the privately run schools of Dubai. The public schools are sponsored by the government and the curricula are set by the MOE (Ministry of Education) while the private schools are internationally certified and they follow the curricula of many foreign countries. (Government of Dubai, 2010). Currently there are totally 240 schools operating in Dubai. Private schools in Dubai are managed and run by expatriates. There are schools for the children of Americans, British, French, German, Egyptians, Indians, Pakistanis, Filipinos, Japanese and many other International schools for other nationalities too. Here it is important to note that privately run schools are attended by not just expatriates but also by a huge majority of nationals of Dubai. (Private Schools Directory, 2010). In the year 2004/2005, total number of students in UAE schools was 630,000, of which 55% were in private schools.

And total number of students in Dubai's private schools is 24% of the total number of students attending private schools in UAE.

There are currently 145 private and 79 public schools in Dubai.

85% of Dubai's schools students are in private schools.

80% of the students attending private schools are expatriates.

50% of the national students also attend private schools.

The problem becomes more intense if we look at the data above which clearly indicates that the number of private schools is double to that of public schools. This, compounded with the fact that 85% of the school going children attend private schools. 50% from national children

and 80% from the expatriate children are attending the private schools. As cited by a leading newspaper of the country ‘more than half of the national students attend private schools, due to more importance being given to English and Mathematics’.(Lewis, 2010). This clearly indicates that a lot is at stake when it comes to negligence in any area of children’s needs that the private schools overlook, such as the proper assessments and guidance that should be given towards the profoundly gifted and talented children studying in these schools. (Ministry of Education, 2010-2020).

1.3.2 Recent Developments in the Education Sector:

Due to the increased importance of private schools for both nationals and expatriates alike, it was imperative that the government took additional steps to ensure quality education for the students attending these schools. KHDA (Knowledge & Human Development Authority) was formed in 2007 to oversee both private and public education; previously this role was conducted by Dubai Education Council (formed in 2005). KHDA proposed plans to reform and gear the private education systems to enhance quality for all. For this purpose international assessments such as TIMMS were carried out. DSIB was formed in December 2007 as the schools inspection department of the KHDA. In October 2008, the first batch of inspections was carried out. The first ever report, Annual Report 2009, depicting the condition and health of Dubai schools came out in 2009. Government and private school inspections were incepted and carried out by DSIB (Dubai Schools Inspection Bureau) based on seven criteria.

- Students progress in key subjects: Maths, Science, Arabic, English, & Islamic Education.
- Personal and social development of students.
- Teaching/learning: Quality of teaching. How well students are learning.

- How well the curriculum meets the educational needs of the children.
- How well the school protects and supports the children.
- The quality of leadership and management of the school.
- The school's overall performance.

According to Jamila al Muhairi, “ Everyone benefits if we push ourselves to improve, rather than sit back and think we are already the best we can be.”(DSIB, 2009).

The results of these inspections highlighted that more than half of Dubai's schools are not providing the good quality education that is expected. The main aim of these inspections was to improve the quality of education in schools but also to increase transparency so that information about each school is clear and more available to make choices easier. Schools deemed to be performing better than others were allowed to increase fees at a larger margin, as an incentive. These reforms by KHDA are still in their early days therefore many more issues to be covered have yet not been touched as is told by KHDA, itself. (KHDA, 2009). Some schools publicly have come forward and questioned the experience and knowledge of DSIB with regards to these inspections questioning the know-how, the importance of the criteria and the knowledge of the surveyors carrying out these inspections. One leading education provider responsible for more than 20 well known schools in Dubai has asked for independent assessors by the higher government. (Gulf News,2010). Many schools still don't comprehend what the seven criteria actually entail and find the criteria very general, lacking clear guidelines and details. (Travel Related, 2009).

Although the first steps to reforms in education and educational systems have started it is yet to be seen when the needs of the gifted and talented in terms of IQ are given their due importance. As is clear from the research shown in the above section that the education sector is still evolving from

making new departments (Dubai Education Council in 2005, KHDA March 2007, DSIB December 2007) to forming new criteria, for its regulations for evaluating the schools. Incentive given to the schools with acceptable, good or outstanding rating is KHDA's permission for them to hike the fee as per their need. (Sankar, 2009). But the ongoing work in this direction is a clear depiction of progress and very soon the gifted and talented children in Dubai's private schools will get the specific attention that is a need of the hour.

1.3.3 Future of Dubai Schools

The number of students attending Dubai's private schools is not only more, at present, than those attending the public or government schools but also it is increasing at an ever increasing rate. As per a report in a leading Dubai newspaper, the last five years have seen UAE nationals increase attending Dubai private schools from 37.8% to 52.3% (2009). Dr. Abdullah Al Karam, the Director General of KHDA considers this data to be not 'alarming' but 'eye opening'. He further gave a statistics, "Right now the graph of the number of Emirati students in public and private schools is intersecting. If nothing changes in the private or public schools it can go zero. This is a trend over several years. I am not suggesting this is a bad figure. With this outcome we need to take private schools seriously". According to him this is a trend that is going to go on. The importance of private schools should be realized by the educators and policy makers in the light of this data, according to Doctor Al Karam. In the near future we are likely to have as many as 60% of the citizens of UAE attending Dubai's private school along with the residents of Dubai, since an ever increasing number is enrolled in the primary grades in the private schools of Dubai. (KhaleejTimes, 2010). Although this is not true for the other six emirates where most Emirati children attend public schools.(Lewis, 2010). According to the Ministry of Education's Strategy 2010-2010, education is the key to build a prosperous economy and it is vital for the development of

strong human capital. (Ministry of Education, 2010-2020). The importance of the private schools is highly inevitable and the growing number of students in these schools makes it necessary that these schools are extremely well equipped to support and develop all groups of children in Dubai.

1.4 Significance and Rationale of the Study :

Almost half of the last century, this argument prevailed amongst researchers and academicians regarding IQ being the result of either nature or nature. But now we have biological evidence supporting that IQ is a result of nature first and then comes along the nurturing part. But nature is the main determinant and the more dominant one that makes some children in a classroom stand out with regards to curricular activities, effortlessly, while others struggle along. No matter how unfair it seems but this the undeniable quality of nature, endowing some with excess while some not with excess. It is the role of nurture that we are going to look into, in its importance for the gifted and talented children.

Firstly, it is extremely important to identify, nurture and develop the gifted and talented studying in the private schools in Dubai. The importance of Dubai's private schools is equal for the citizens and the residents of Dubai, as more than half of Emirati children attend these private schools.(Lewis, 2010). Therefore it becomes increasingly important that the private schools be equipped for the identification and development of the gifted and talented children in the private schools of Dubai, since an ever increasing number or the majority of Dubai's children attend private schools in Dubai, even more than those of any other Emirate in the UAE.

Secondly it is important to help save these children from falling prey to emotional and behavioral problems as they have a higher intensity of emotion, sensitivity and awareness different than their peers. Their social and emotional development is different too. (Roedell, 1984).

1.4.1 Advantages of the identification and development of the gifted students:

Research indicates that after identification, when gifted students are entered into special educational programs, they are encouraged, challenged and stimulated. Thus feel the responsibility to excel, which is their potential to do so and fulfil the expectations set for them in the programs, built for them.(University of Haifa, March 2009).

Why is it necessary to distinguish and know whether a child is gifted or not? It is due to various reasons that this is imperative but two reasons seem to stand out and highlight this necessity most: 1) to enable these children to reach and work up to their full potential so that their capabilities do not result in being underutilized because as it stands their gifts are rarely fully utilized 2) Mostly the extremely high intellectual capabilities are accompanied with low social abilities and that is where they need a lot of guidance so that they do not get misunderstood. Sometimes the intensity of their feelings might result in awkward social interactions. Unless identified and guided they are often misunderstood by peers, society and even by their own selves. (Heylighen, 2007). According to a definition by the Columbus group (a formal research conducting consultancy, conducting local and global researches for the United Nations, multinationals and the government of the United States) which has been used and referred to as being 'the asynchronous model of giftedness' by many different authors in their writings about the gifted and talented. "Giftedness is asynchronous development in which advanced cognitive abilities and high intensity combine to create inner experiences and awareness that are qualitatively different from the norm. This asynchrony increases with higher intellectual capacity. The uniqueness of the gifted renders them particularly vulnerable and requires modifications in parenting, teaching and counselling in order for them to develop optimally."(Columbus Group, 1991).

According to Kathy Kearny, gifted educational consultant and founder for Hollingworth centre (South Casco, Maine) for highly gifted children, it is imperative to find out and identify a child with high IQ capabilities since not only the educational needs differ but also the emotional needs are different too at the higher levels of IQ , for these children. (Kearny,1986).

1.4.2 Why the need for different educational programs for the gifted and talented children:

As we know and are able to comprehend very well that there is a requirement for academically weak children that a few elements should be a part of their basic education to ensure their academic growth: highly structured instruction, detailed , no omission of intermediate steps, often one to one supervision and hands on experience to learn even simple steps. In the same way profoundly gifted or high IQ children also need a few elements to be present in their education system in order for them to reach potential: more demanding instructions, independant learning, multifaceted and abstract material. When the former type of educational elements are given to the latter group, they are dysfunctional as when the latter type of educational elements are for the former group of students who will get confused with the abstractness and self-directness of the material. (Gottfredson, 2004). According to noted psychologist Leta Hollingworth,with eminent research on gifted and talented children, an accurate assessment of these children is required to help them intellectually, socially and emotionally. (Hollingworth, 1942).

1.5 Programs and Provisions for the profoundly gifted and talented around the world:

A detailed explanation is given in the coming chapter (chapter 5) regarding the programs and provisions for the profoundly gifted and talented around the world.

1.6 Limitation of the Study :

1)The absence of any data and information provided by an authorised body in this respect.

However a high IQ is also a special need as categorized by all, educationalists around the world.

2)Due to refusals from two schools regarding research as student, while conducting the modules of MEd, the researcher could only now conduct research in schools where they knew her as a former teacher or colleague.

1.7 Research Questions :

- 1) Is it meaningful, useful and reliable to evaluate people according to a single major dimension of cognitive competence called intelligence testing or is it unfair?
- 2) Is there really a co-relation between IQ scores and academic scores?
- 3) If the co-relation does exist then how can it be used in a positive way to help cognition or learning development and ability in children? (Recommendations and suggestions)
- 4) What is the status of the education of gifted and talented in the Private schools in Dubai, in terms of assessments and their development?

Chapter 2 Literature Review

Literature review is conducted to provide more credibility to our research with the help of literature, research and findings conducted by many notable figures. To, highlight the work done for the gifted and talented, from past till present, in different parts of the world. Interest in the recognition and development was prevalent around historically and is a worldwide issue. As depicted in the words of Rupert Murdoch, chairman of the media conglomerate News Corp., at the Abu Dhabi media summit, “Arab countries can generate millions of jobs for their rising generation by unlocking creativity of their people. No nation has monopoly on creative content”. (Ramavarman, 2010). Creativity when unleashed not only has economic benefits for the long term of a country. Any nation can increase their creativity by focusing on advanced education systems for not only all its children but especially for the gifted and talented.

2.1 Introduction:

“It seems to us that in intelligence there is a fundamental faculty, the alteration or the lack of which is of utmost importance for practical life. This faculty is judgement, otherwise called good sense, practical sense, initiative, and the faculty of adapting one’s self to circumstances. A person may be a moron or imbecile if he is lacking in judgement; but with good judgement he can never be either. Indeed the rest the individual faculties seem of little importance in comparison with judgement” (Binet & Simon, 1916, 1973, pp.42-43).

A simple and sound way to describe gifted children would be “‘Gifted’ children develop faster intellectually than they do physically and emotionally. The IQ for a normal child usually ranges between 85 and 115, gifted children score above 130” (Ebony, 1999, pp.1).

According to Kath Earner, the gifted children are those, usually in the 140 above, range. And the profoundly gifted are those who are in the 170 above IQ range.

2.1.2 The General intelligence factor g :

The general intelligence factor or 'g' was first brought into the field of psychology by Charles Spearman in 1923. This was basically what the IQ tests were actually quantifying. Spearman was a psychometrician himself, and he found that children's grades in school were positively co related, along seemingly unrelated subjects. This clearly highlighted the presence or influence of a dominant factor, which he named g or general intelligence. In different words, the g factor exists unhindered and independent of schooling, paper-and pencil tests and culture. All mental tests measure the same thing, more or less. The g factor can be distilled from scores of any test for an individual, regardless of age, race and sex. The g is unified reliable and universally measured distinction among humans regarding their ability to reason, learn and solve problems. It is that, when we find some people profoundly smarter than others and it is well measured by IQ tests (Gottfredson, 2004)

2.1.3 The mystery that is IQ, defined:

IQ or Intelligence quotient is derived and translated from the German language. What was Intelligenze-Quotient in German is Intelligence quotient in English. It was first initiated by German psychologist William Stern in 1912. He proposed it to be used as a way for scoring children's intelligence tests, such as those by Alfred-Binet, in the early twentieth century. According to Dr. C George Boeree, professor of psychology at Shippensburg University of Pennsylvania, intelligence is actually 3 embedded traits or characteristics a) capacity to learn b) Capacity to apply c) engage in abstract reasoning. (Boerree, 2003).

IQ calculated: Mental age/chronological age x 100

For the general population IQ is 100. This depicts what statisticians call the normal distribution better known as the bell-curve. Where only a few are at the extreme two ends of the scale and in between lies the general population. Many traits are like this for example if you try to find people taller than 6 feet, again for this trait a normal distribution exists because a few will fulfil this criteria. But if you try to find the trait 'how many people can walk' there won't be a normal distribution because almost everyone can walk apart from the weak, handicapped or elderly. A normal distribution exists for a trait that is uncommon. (Fallows, 1989).

2.2 Gifted and Talented:

According to Steven Pfeiffer, professor in Florida State's Department of Educational Psychology and Learning Systems, a licensed psychologist working with gifted and talented children and their families, and one of USA's leading authorities on issues related to gifted children "Giftedness is still not very well understood. Even within the gifted field there is considerable controversy regarding definitional, conceptual and diagnostic issues. However as a general agreed upon definition gifted children are those who are in the upper 3% to 5% compared to their peers in the following domains: general intellectual ability, specific academic competence, visual/performing arts, leadership and creativity.

A simple and sound way to describe gifted children would be " 'Gifted' children develop faster intellectually than they do physically and emotionally. The IQ for a normal child usually ranges between 85 and 115, gifted children score above 130". (Ebony, 1999, pp.1).

According to former US commissioner of Education Sidney P. Maryland in his report to the Congress " Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding capabilities are capable of high performance. These are children who require differentiated educational programs and/or services beyond those

normally provided by the regular school programme in order to realize their contribution to self and society.” (Maryland 1972)

2.3 Relationship between gifted and talented and special needs :

IQ is as much a special needs as is a disability. They are just two extreme and opposite ends of the same spectrum, the spectrum is special needs. The need for special education is considered crucial for a student having an IQ of 70 but when it comes to a high IQ (130) student then the need is not given any importance but both groups suffer in a normal programmed class room. However gifted education is as much a basic education for gifted children as is special education for any special needs children. Gifted students have as much a ‘special need’ problem as do any other group of special need related students. (Florida State University, 2009). The topic of special education for the gifted has been the most neglected and least-given-importance subject, however. Very few books and even fewer articles have ever addressed the special needs of this group of children. First because it is not fully still accepted as a special need and second, because it is something a school system does not encounter every day. That is why when it does actually appear the school is not prepared fully to deal with it (Kearny, 2008).

2.4 IQ testing: Past to Present

Let us first take a look at the beginning of the psychometric testing of intelligence and the controversies it is surrounded with.

- Almost one and a half centuries ago the questions about the origins and source of human intelligence started to inspire researchers. In the beginning the very first method they chose was measuring the skull sizes (craniometry). A pioneering brain surgeon **Paul Broca** collected enormous data about brain sizes and their co relation to human intelligence.

- At the same time **Sir Francis Galton** (1822-1911) wrote his book *Hereditary Genius* (1869). Galton believed in the genetic transference of intelligence. He was a cousin of Charles Darwin and believed that eminent people transferred their genes and had offspring that later became eminent too like them. He believed in testing human reaction time too as evidence of intelligence. At the same time **William Wundt** (1832-1920, Germany), the father of modern experimental psychology was also trying his best to solve the debate about psychometrics. A lot of work was being done in this field at that time to measure and solve the mystery about human intelligence. (Li, 1996).
- But the French gained most success in this field when in **1900s a French scientist Alfred Binet (1857-1911)** developed the first modern intelligence test the Binet-Simon intelligence scale. Although he was a lawyer by profession, yet he had an in-depth interest in psychology. His book about intelligence (*L'Etude experimentale de l'intelligence*) has empirical data about his own two daughters and the differences in intelligence among them. In 1905 he along with his associate Theodore Simon prepared a test with increasing difficulty levels. This was the world's first intelligence test, 'The Binet-Simon intelligence test'. (Leonard Zusne, p.46, 1984). He argued that the children in the lower IQ group needed extra teaching and they did not have any potential inability to learn. He drew up a series of tests that were arranged according to ages three to thirteen. He was the pioneer of intelligence testing in the true sense. In his test children were required to follow commands, copy patterns, and put things in order. And if 70 percent of ten year olds could pass a particular test successfully then this success identified that the test was a standard for the 8 year old level of mental intelligence. From his works came forth the word IQ (intelligence quotient) in vocabularies and books around the world.

- Originally IQ was calculated as $100 \times \text{mental age} / \text{chronological age}$. For example an 8 year old who passes the 10 year olds test would have an IQ of $100 \times 10 / 8 = 125$. Tests based on these tests were sold in the US army to sort out recruits for World War I, these tests were based on knowledge, mainly. In totality what these tests were measuring was intelligence, thus arose the question that what is intelligence.
- Like Binet, **Charles Edward Spearman (1863-1945)**, an English psychologist, did seminal work on human intelligence. He proposed that intelligent behaviour is produced by just one unitary quality inside the human brain, that he proposed is the general factor or simply g. According to the general intelligence theory all intelligent behaviour is derived from one metaphorical pool of mental energy. He proposed that all tests of mental ability graded individuals similarly and if one did well on one test, then there would be a repetition of this good score in all the other subjects too. Simply put we can say that grades of school children on an array unrelated subjects seemed to be positively co-related. Spearman is one of the most important figures in the debate about intelligence. Although he never made any IQ test himself yet he argued that a common factor intelligence factor was common in all tests. (Mackintosh, 1998).
Simply described he said that if a person is good in solving a given problem he will be good in solving others too and vice versa and whenever scores on a battery of problem solving tests are factor analysed they are represented psychometrically by a g, general intelligence. Although he believed that different types of skills needed their specific types on intelligences yet g was the most important factor and a person's g was inherited or somehow represented in the physiology of the brain. (Schlinger, 2000). Tests of IQ have their credibility measured in terms of 'g' loadings till now.
- He was followed by **Arthur R. Jensen (1923)** much of his work is based on the learning difficulties of the culturally disadvantaged students. Although his papers

raised huge protests in the academic circles yet their importance and validity cannot be ignored at all. According to Jensen grades on all cognitive tests correlate positively with one another thus concluding, cognitive trait is an inheritant trait dependant on the genetic constitution of an individual rather than on environmental factors. He claims that there is a direct link between economic achievement and IQ and heritability of IQ was over 0.7, only 0.3 was due to environmental factors. Though his work seems closely related to Spearman's yet one difference in his research and methodology made them a target for criticism instead of applaud. He conducted his studies on **African Americans versus white Americans** and wrote that the latter population has precedence over the former one.

- Opponents of the general intelligence theory claim that there are many types of intelligences. For example **Howard Gardner (1983)**, one of the leading proponents of the multiple intelligence theory claim that there are seven different forms of intelligences: linguistic (word smart), musical (music smart), spatial (picture smart), bodily (body smart), interpersonal (people smart), intrapersonal (self smart), and logical-mathematical (reasoning smart). He said that we respect only linguistic and mathematical intelligence although we must also show appreciation of the other kinds of intelligences that enrich personalities. And only the logical math skill and language skill holder is not the intelligent kind but those with the rest of the intelligences are also intelligent in their respective areas. (Stanford, 2003). Another proponent of the Multiple Intelligences theory was **Robert J. Sternberg** who felt his version of this theory called Triarchic Theory of Intelligence was the most complete. He classified intelligence into 2 parts: analytical (or academic) and practical. (Sternberg, 1998). According to him there are two different types of mathematical intelligences, the classroom math intelligence and a street wise practical intelligence that helps

Brazilian street children run their street businesses aptly, though they cannot do classroom maths. Many more followed and redesigned the Multiple Intelligences theory according to their own perceptions and observations such as **LLThurstone and Guilford**.

- Controversial work done regarding IQ testing and IQ in general is of no less proportion than any such topic, as important to the human population. Stephen Jay Gould's Mismeasure of Man , Charles Murray's Bell Curve

2.4.1 IQ tests today:

The amount of work and research done in this area is tremendous but the fact remains that it has been the forte of the developed countries of the world. Importance of IQ can be understood when looked at in the context of the economic variable. Countries with higher mean IQs have greater economic prosperity. (Lynn, Vanhanen, 2002).

IQ testing has certainly come a long way since its inception in 1905, when Alfred Binet, gave the world its first ever IQ test the Binet-Simon intelligence test, by now it has been revised or updated six times, the last being in 2003 (fifth revision of the S-B).

- The mostly widely used tests today are the Weschler tests, created by David Weschler (1939). The Weschler tests give three scores for different age groups: the verbal score, the performance score, and the combined score.
- Another very popular and widely used test is the Raven's Progressive Matrices. It is discussed at length in the coming chapter 3, 'Methodology'.
- One recent test on the scene of psychometrics is the NNAT, Naglieri's Non Verbal Assessments, created by Jack Naglieri, a professor of psychology and director of the centre for cognitive development at George Mason University. The Naglieri tests are

important in this respect that they are suited to measure examinees from different cultural and linguistic backgrounds . (Naglieri. 2003).

Today these IQ tests are used to measure not just intelligence but also scholastic aptitude, school achievement, and specific abilities. For example for the preparatory school the entrance test is SSAT, for college level its SAT or ACT, for medical school its MOAT, for business schools its GMAT and for law schools its LSAT.

2.5 IQ, biological or environmental: There had been an ongoing debate about IQ being the result of biological traits or a result of an individual's environment. However in the ongoing battle between nature and nurture, nature seems to have the upper hand, as has been proved by the findings and researches below.

- IQ is the measurement of general intelligence or g, and the notion of g was first adopted in an abstract way in almost as far back as 1904. However without any clear evidence of the biological bearings this theory was always shrouded by controversy, but now according to Jan Glascher in the journal, *Proceedings of the National Academy of Sciences*, which is the official journal of United States National Academy of Sciences (advisers to U.S. government regarding science, engineering and medicine), "General intelligence relies on the connection between the frontal and the parietal (situated behind the frontal) parts of the brain. General intelligence actually depends on a specific network inside the brain, and this is the connections between the gray matter, or cell bodies, and the white matter, or connecting fibres between neurons."(Glascher, 2010).
- Research in science of the human brain has proved in effect that there is a positive relation between in vivo brain volume and intelligence. In a research conducted on the brain volume and intelligence results have shown that a positive relationship exists between brain volume and intelligence. (McDaniel, 2004).

- Previously genes were found that were having negative effects on intelligence but now a gene has been discovered and it has a positive effect on intelligence: the CHRM 2 (cholinergic muscarinic 2) gene, the neuronal receptor gene on chromosome 7. (Dryden, 2007)

General intelligence is related to multiple areas of the brain and not just any one area. The g in human brain is based on the gray matter located in various regions of the brain.(Irvin, 2004)

2.6 Co-relation between IQ and Scholastic Achievements

This is a growing concern or need of any developing country to identify the true potential of its children in the form of nurturing its talented and gifted children. In order to find the gifted and talented it is important to assess them correctly so that their potential is fully utilized.

This assessment can be scholastic or IQ based. Also it can be a co-relation of both. Research done in this respect has proved that there is a positive co relation between psychometric testing of intelligence and educational achievement. A research conducted by Deary and colleagues reported a positive correlation (.81) between IQ tests and academic achievement, (Deary, 2007).

A firsthand experience and observation was gathered by the researcher to assess the existence of co relation between IQ and academic excellence. The IQ test chosen for this Raven's Progressive Matrices, which is a non verbal test, popularly used by educationists, researchers and psychologists around the world. Details, findings and analysis of this test are given in detail in the coming chapters, chapter 3 and chapter 4, respectively.

2.7 IQ testing around the world:

It was interesting to note that during this entire research, the researcher did not come across any country, with a satisfactory report in the context of the gifted and talented. Researchers,

educators. Psychologists and journalists around the world complain of less and less and resources assigned to the development of the gifted and talented. In Britain for instance Tony Blair's decision for allocation of resources towards the development of gifted and talented children was met with criticism (Telegraph View, 2010).

According to an estimate there are 2.4 million gifted and talented students in the USA. A lack of uniformity exists amongst the different states when it comes to policies and procedures regarding the gifted and talented. Only 29 states in the whole of USA (consisting of 40 states) mandate the identification of the gifted and talented. Out of these 29 states only 11 allocate funds to support the gifted and talented. 14 states spend less than \$500,000 per year in this direction while 8 states expend \$0 in this respect. This is a big double standard, as commented by researchers, by the leaders of USA who on one hand seem to favour an environment that is research oriented, innovative and full of new idea generation instead all the federal budgets and money is assigned for programs that address the needs of the deficient students. The law and policy of NCLB (No Child Left Behind), much implemented and hyped by the Congress to 'focus on the education and support of all students' also ignores the gifted and talented, which is also a group of students, struggling. (Stephens and Riggsbee, 2007).

2.8 Future of IQ testing:

A study conducted by the Vanderbilt University addresses an inevitable question, 'who will be our next Albert Einstein? The study which was conducted over a period of 35 years tracks exceptionally gifted and talented from a young age across their life spans reveals that it takes much more than exceptional abilities to actually generate exceptional scientific expertise (Vanderbilt University, December 19, 2006).

2.9 Problems faced by the gifted and talented:

Educators, social workers and politicians mostly view a struggling student as one who is disadvantaged by ability and achievement grades, however the struggles of the gifted and talented students are hardly given a thought, as they sit in their respective classrooms and wait. They wait for opportunities and challenges to nurture, enhance and fulfil their potential. And as they sit and wait they often lose their passion due to frustration and thus become our lost talent. (Stephens and Riggsbee, 2007).

Lack of attention paid due to being considered the advantaged and not the disadvantaged in SEN

The amount of attention paid to Special needs area with regards to disabilities is a lot in Dubai. A lot of debate and stress goes in ensuring their well being in public and private schools. But the same is not true when it comes to the other end of the special need's dimension, the area of the gifted and talented. Gifted and talented are considered as being able to survive, without a proper acknowledgement of their special need. They too need encouragement, wisdom and guidance to be able to understand the journey of life as their peers who take longer time on math and science related applications. They need to be taught 'humility' and not be taught just to be nice but not take their giftedness for granted. (Murray, 2007). There is an acute lack when it comes to their development and nurture around the world but more so in the developing countries of the world.

Social and emotional problems:

Gifted children since unidentified remain misunderstood and misinterpreted. They have social and emotional difficulties that make them different from others (Heylighen, 2003)

According to Leta Stetter Hollingworth, a psychologist who has done pioneering work for the gifted

and talented children, “Many of the problems faced by these children are functions of immaturity. To have the intelligence of an adult and the emotions of a child combined in a childhood body is to encounter certain difficulties.” (Hollingworth, 1942, p.282-283)

2.9.1 Characteristics of the gifted and talented:

Stephany Tolan, author, researcher and speaker for exceptionally gifted children states in her article “Discovering the gifted ex-child,” “gifted people frequently take their giftedness for granted believing that it is people with different abilities who are really the bright ones”.

(Tolan, 1992). Unable to get challenging and fulfilling work and work atmosphere creates a frustration and a void that they are themselves unable to interpret. According to Tolan, in the same article as above, “Not understanding the source of their frustration they simply hunker down and live their lives in survival mode”. (Tolan, 1994).

Sometimes the pain due to acute sensitivity can be so hard to alleviate that these children risk being on the verge of craving out to transport their senses from their real world in which they are living in to a private world of their own. (Douglas,2006).

Dabrowski (1972) found emotional intensity and sensitivity as being characteristics of the gifted and talented and outlined 5 dimensions to describe intensity of mental activity, as being beyond the ordinary.

- 1) Psychomotor: an inbuilt ability to become active, energetic and this is expressed in movement, restlessness and in being extremely driven.
- 2) Sensual: increased differentiation and alive sense of sensual experience.
- 3) Intellectual: Extreme need for knowledge, search for truth and discovery, questioning, love for ideas, and theory analysis.

- 4) Imagination: extremely imaginative, with a rich liking for the unusual, dreams and fantasies.
- 5) Emotional: high intensity in emotional life and careful meticulous self examination.
(Dabrowski, 1972)

The work of Dabrowski is very useful in highlighting and understanding the nature of the gifted and talented but the work of Sommers takes it a step further as she links it to advanced cognitive organization. "A high level of Emotional responsiveness may be associated with advanced cognitive organization. All of the cognitive skills that were found to be related to the ability to respond with more emotions are marks of highly organized awareness- an awareness that might be governed by a well structured system of values, thoughts and beliefs but not by momentary excitements (Sommers, 1981 p. 560). Sommers connects high emotional activity to be a product of highly organized awareness in profoundly gifted and talented children.

Chapter 3 Methodology

3.1 Introduction:

In this chapter the different methodologies used for the research conducted by the researcher are analysed and detailed. Their importance and validity is highlighted. Reasons why they have been selected as the selected modes of research for this dissertation are also explained. A glossary of important terms is presented at the end of the chapter to facilitate the understanding of the readers. Since this study involves a hypothesis (Is academic excellence in school children based on IQ) and an issue (a review of private schools in Dubai regarding the gifted and talented), both methods of research or data collection were required: the quantitative and the qualitative.

3.2 Methods of Data Collection:

The word research has been derived from the French word *recherché* which means to search closely. Research was conducted and formatted by the means of the hour glass model structure. The Hour-Glass research model structure is a very efficient way of forming a research paper. This format was also looked into and researched thoroughly by the researcher. The hour glass model structure is basically starting with a broad spectrum, then focussing in on the methodology (the bottleneck of the hourglass), collecting the data, and then again expanding by means of discussions, analysis, and results.(Trochim, 2006).

In social sciences such as education, two research methods are used: the quantitative research method and the qualitative research method. Qualitative research and quantitative research approaches are used with the research instruments being:

Standardized psychometric test (Raven's Standard Progressive Matrices),

Interviews,

Observations,

Questionnaires

The triangulation technique was used since more than one method of data collection was used. Triangulation in a way is double checking, the results, acquired. For example if the answers from two sources are clashing. The third source can bring evidence for one of them. If all three clash then the researcher needs to reframe the research. During triangulation the researcher, researches the same phenomena from more than two sources and combines several research methods, both qualitative and quantitative, to gather results. According to Cohen and Manion, "Triangulation is an attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint. (Cohen and Manion, 2000, p. 20). And as per Donoghue and Punch, "triangulation is a method of cross-checking data from multiple sources to search for regularities in the research data."(Donoghue and Punch, 2003,p 78). There are four basic types of triangulation: Data triangulation, investigator triangulation, theory triangulation and methodological triangulation.(Denzin, 2006).The method used in this research is the methodological triangulation, which involves gathering data, such as interviews, questionnaires and documents.

3.2.1 Quantitative research with Qualitative research or Quantitative research versus

Qualitative research :

Researchers of these two methods often rigidly support one method, against the other one.

"There's no such thing as qualitative date. Everything is either one or zero"(p.40), is the

view of one researcher and proponent of quantitative research in quoted in Miles and

Huberman's 1994 book *Qualitative Data Analysis*. Whilst according to researcher Doctor

Donald Cambell is, “all research ultimately has qualitative grounding.”(p 40), also quoted in the same book(Miles and Huberman’s 1994 book *Qualitative Data Analysis*), mentioned before. Both methods were used to give an overall picture.

3.3 Quantitative Methods:

In the quantitative method analysis is made on the basis of numerical evidence in quantitative research. For quantitative analysis it is important to have numbers, statistics, graphs or ratios to analyse them, in simpler terms quantity of something is analysed.

The quantitative method used is a psychometric testing. This psychometric testing is used to test the hypothesis where by numerical evidence data is gathered to achieve firsthand knowledge regarding IQ’s correlation to academic excellence. We can review very well in the past chapter (chapter 2) about the importance of IQ and the amount of credit and work done for it in the developed countries of the world.

Testing the hypothesis: ‘Academic excellence in school children is based on IQ’

According to Fredrick Kerlinger, “Hypothesis is a conjectural statement, tentative proposition about the relation between two or more phenomena or variables.”(Kerlinger, 1973, p.12)

For this reason the first quantitative method chosen was a simple psychometric test, quantitative in nature. A psychometric test was undertaken to prove the hypothesis, ‘IQ in school children is correlated to academic excellence,’ as a part of this research.

Psychometrics and the test undertaken are defined and explained below, in order to highlight their importance to the reader.

Psychometrics: The branch of psychology in which numerical measurement is made of psychological features. An example of psychometric testing can be assessment of any personal quality or feature such as intelligence, artistic qualities, etc. It is also a science, but of a different nature. It is the science of psychological measurement in which tests are done that measure knowledge, abilities, attitude, and personality traits with the help of

questionnaires and tests. (Encyclopaedia Britannica, 2010). “Measurement in psychology and physics are in no sense different. Physicists can measure when they can find the operations by which they may meet the necessary criteria; psychologists have but to do the same. They need not worry about the mysterious differences between the meanings of measurement in the two sciences.” (Reese, 1943, p.49).

To derive a correlation let us look at the dynamics of correlations: #And also how to interpret the correlations from the psychologist’s and educationist, world and perspective, as given below in the words of renowned psychologist Dr Boeree in italics.

- -1.0 to -0.7 strong negative correlation
- -0.7 to -0.3 weak negative correlation
- -0.3 to +0.3 little or no correlation
- +0.3 to +0.7 weak positive correlation
- +0.7 to +1.0 strong positive correlation

According to Dr. George Boeree, in his paper ‘IQ and Intelligence’ , *IQ is the score that is derived or obtained by an IQ test and in psychology, psychologists are generally impressed when they find out that the between two variables is .3 and/or higher but .8 or .9 leaves psychologists in no doubt at all about the correlation being a positive one.* (Boeree, 2003).

Here after achieving the score on Raven’s Standard Progressive Matrices, these psychometric scores are then correlated with the academic scores to establish whether the correlation is positive or not.

3.3.1 Raven’s Standard Progressive Matrices :

These are nonverbal psychometric tests, used especially when the group is culturally diverse. Charles Spearman (who first gave us the idea that a dominant factor influences the positive co relation of scores, found in seemingly unrelated subjects, and named it the g or general intelligence) finds the Raven’s progressive Matrices to be the best method to measure the g.

These tests are popularly used by educationalists, researchers, and psychologists on population of age groups from 6 to adult.(Raven, 2003). The test used psychometrically for this research was the full scale IQ measures or Raven's Standard Progressive Matrices. Raven's Progressive Matrices are non verbal tests very good when used for a culturally diverse population. These tests are very popular in research and applied settings. (MacEvoy et al, 1983). One good feature of Raven is that all children can use the same test, since it comprises of only one level (Lohman et al, 2008). Each test consists of sixty questions and it has to be finished within 20-45 minutes. The tests can be used for educational, clinical, and occupational practice and research. Three versions of this test exist classic, parallel, and plus (a more powerful version). Since the tests are non verbal they minimize the effects of cultural and language barriers. Raven's Matrices can be used to measure the capacity of students of varying age groups, age 6-80, about his/her capacity to observe, solve problems, and learn. (Raven court, 2003).

3.3.2 Selecting the sample population:

According to Webster,1985, a sample is a finite part of a statistical population whose properties are to be studied to gain information about the whole (Webster,1985).

Sampling approach was used to derive statistical results; since sampling is cost effective and more efficient than census. A carefully conducted sample is more efficient due to cost and time efficiency than a census (enumerating all the units in the population).

Target population was children between ages 8 years to 11 years. The school selected was located in the Emirates of Dubai; there were 5 sections of grade 5th and 4 sections of grade 6th.Two small samples of 15 students were tested each time. The reason for selecting 15 students as the sample population each time was because the strength or the number of students in each of these classes was 15.Variables kept the same were the sample size and the

variable that was changed was the children's grades. The first test was conducted on a sample population from grade 5th. The second time the sample population was from grade 6th.

3.4 Qualitative Methods:

In qualitative research methods, analysis is made on the bases of data collected from words (eg. Interviews), pictures (eg: videos) and objects. Qualitative methods are used to provide an in depth look in to the problem statement. Qualitative methods used entail participant observation, interviews, and questionnaires. Vast research of books, journals, magazine articles and newspaper articles was conducted to be able to do justice to the topic. After which an analysis is formed which serves as a base for recommendations and suggestions. Although quantitative research was given precedence over qualitative research until late 1970's when J Taylor popularized the merits of qualitative research. He noted that "when field researchers use quantitative methods to increase the precision of observations, the qualitative and quantitative methods began to complement each other (Taylor, 1977, p.121). Ethical issues in qualitative research: Due to the subjective nature, of qualitative research, regarding data collection, analysis and interpretations a lot of ethical issues have to be considered in qualitative research such as confidentiality and security of the concerned people

(Classroom,Participant) Observation:

There are two main types of Observation methods: Participant and/or naturalistic. In participant the observer becomes a part of his/her environment or population, being studied. In naturalistic observation the researcher stays unobtrusive and is a passive observer. It is observing the activities as they naturally take place, objectively. (Patton, 1990). The observation method chosen by the researcher was naturalistic, so as to not create any disturbance in the classroom's daily activities. It is the oldest method of data collection and is widely used in education and child psychology.

The researcher observed Sabtain (grade 6th) and Rayo (grade 5th) four times each. Twice, the researcher went to their school to observe them in the classroom and play ground settings. And twice data was gathered regarding my checklist from their teachers. For this purpose I am thankful for the co operation rendered to me by the teachers and the principal of the school. Data gathered from the observations was observed and marked on a checklist by Francis Heylighen, a major researcher in this field. The data is presented in chapter 5 of this thesis.

Naturalistic observation can be overt or covert. In overt observation, the subjects know they are being observed while in covert observation, in which individuals being studied do not know that they are part of a research. The method chosen by the researcher was covert.

Naturalistic Observation applied:

2 Children identified by the school, teachers (and parents) as high IQ, were observed on a check list for the gifted and talented, in class room settings. Ironically both the boys are 10 years of age, Sabtain is in grade 6th and Rayo is in grade 5th. Sabtain is young for his grade, that is because of the double promotion that he has achieved.

Structured Interviews

It is best to use structured interviews when the data gathered from all the respondents has to be analysed together, therefore the consistency or similarity in the questions allows for an analysis or comparison to take place. One more benefit of structured interview is, the opportunity of diverging from the topic are less since the interview is completely structured.

Structured Interviews applied:

- Interviews were conducted from the teachers of grade 5th and 6th consecutively, from the class teachers where the above mentioned

Raven's Standard Progressive Matrices tests were conducted, regarding the students with the highest scores on the test coinciding with their academic high grades and also about the school and its policies regarding the gifted and talented.

- An interview was conducted with the mother of the boy whose grades were exceptionally high, on Raven's Progressive Matrices and academically as well, plus was identified by the school and teachers for his giftedness.

Unstructured Interviews:

Unstructured interviews are a way of collecting data from respondents where questions are shaped or adapted during the interview itself. This is a very widely used instrument in sociology and hence in education.

Designing the Unstructured Interview:

It is not uncommon to design an unstructured interview. Since, otherwise the chances are that the unstructured interview may not take the shape desired by the interviewer/researcher.

- A control over the flow of conversation was a mental challenge, because when a new topic starts in the middle of the conversation it is difficult to decide on the spot, whether to revert back to the continuity of the previous topic, or continue on the new topic.(Patton, 1990)
- Names and identities of the interviewed were kept confidential.
- Length of time was considered, since the interviewed were asked a certain amount of time within which the interview had to be contemplated. Because each interview is highly individualized the length of time is an important factor. (Arksey and Knight, 1999).

- A basic framework was mentally adhered to by the interviewer, so as not to go too far away from the basic topic Keeping in view as depicted by Patton in his book ‘Qualitative research and evaluation methods’ it requires greater mental planning and alertness to gather systematic information in an unstructured interview. (Patton, 1990).

Unstructured interview applied:

- 2 more interviews were conducted from the heads of two different private schools in Dubai, regarding their policies for the gifted and talented in their schools.

Structured and Unstructured interviews applied:

Summation of the interviews:

- 1) The structured interviews with the teachers are present as transcripts in the appendix. The main points highlighted in chapter 4.
- 2) The structured interviews with the mothers of the gifted and talented children are in the transcript form in the appendix, the highlights of the interview can be observed in chapter 4.
- 3) The unstructured interviews with the heads of two different schools in Dubai discussed issues regarding the policies of their schools regarding the gifted and talented. The transcripts of the interviews can be viewed in the appendix. And the important points covered in the interviews are present in chapter 4.

Questionnaire surveys : According to Webster (2008), a questionnaire is a series of questions asked to individuals to obtain statistically useful information about a topic. Questionnaires are a very instrument, widely used in Social research such as education. Open ended questions were used, whereby the respondents were free to provide their answers in the manner, they deemed correct. Open ended questions were kept completely unstructured to give respondents more freedom of words so their expressions were not bound in any way. Questionnaires were invented by Sir Francis Galton (1822-1911). (Galton.org).It was made sure that the survey is not too long because research on long surveys, suggests a high non response rate regarding long surveys.(Ragunathan, 1995). The best thing about questionnaires is their ease of use, and familiarity of use to almost everybody.(Berdie,and Anderson, 1973).

Designing the Questionnaire: These guidelines were followed, when designing the questionnaire.

- The questions should begin with easier questions and can move on to slightly less subtle issues. (Erdos, 1957). Because if the first few questions are too difficult or threatening there is little or no chance that the respondent will complete the survey.
- The names and identities of the respondents were kept confidential. This policy of anonymity was viewed positively by the respondents.
- Length of the questionnaire was kept to minimum. Questions were designed in such a way that the response generated was a well-rounded answer.

3.5 Ethics and Ethical implications in data collection:

Research ethics were adhered to during the conductance of this research. Those research ethics are as follows.

- 1) The first and most basic one, ‘do unto others as you would have them do unto you.’
- 2) Confidentiality of others was strictly adhered to.
- 3) Respect and dignity of everyone involved in this research was completely guarded.

(Rensik, NIEHS, 2010).

- 4) Most importantly it was considered a search of truth, as should be the motive in humanities according to National Committees for Research Ethics in Norway.

(National Committees for Research Ethics in Norway, 2006)

Chapter 4 Research Findings

4.1 Introduction:

This chapter provides a comprehensive look into the research findings conducted by the researcher in pursuit of the topic undertaken.

4.2 Quantitative Research:

Quantitative research deals with numbers that provide accuracy and credibility to a research. Following is the mode of quantitative research applied in this research to provide an in depth look at the co-relation between IQ and academic excellence, at the same time to prove the importance of this co-relation in the private schools in Dubai.

4.2.2 Psychometrics

The psychometric test undertaken was Ravens Standard Progressive Matrices which is used by educators, psychologists and social workers around the world to identify the gifted and talented children, to reach their full potential.

One good feature of Raven is that all children can use the same test, since it comprises of only one level (Lohman et al, 2007). Students then answered their answers on a separate sheet of paper which was then scored separately. To conduct a small scale test on her own the researcher first contacted two educational psychologists in Dubai. One of them was an educational psychologist in Dubai Community Health Centres. Some guidance was provided by her regarding the choice of the correct IQ tests. Harcourt assessment Company, based in

Florida, Orlando was contacted. They guided the researcher to place orders for Raven's Matrices in their UK based branch. Upon receiving the Raven's Standard Progressive Matrices permission was gained from an Indian school in Dubai. This was a private school in operation in the city since the last twenty years. Since I had worked in that school previously, the head of the school, when approached, co operated to let the researcher conduct her research provided she was ethical about their names and credentials.

Test(1): A small scale test was carried out with the size of the sample population as 15 students, from grade 5.

Results: Upon making statistical calculations it was found that there was a positive co relation between their academic results and their IQ test scores.

The co efficient of co relation was 0.98, therefore it was concluded that it is a positive correlation.

Test (2): This test was repeated again this time for grade 6th students of the same school, the population sample size was again kept same, that is, 15 students.

Results: Again the co efficient for co relation was 0.88 which concludes to us the presence of a strong, positive co relation.

4.3 Qualitative Research:

To provide richness to the data the data, qualitative research was conducted using the following methods.

Data was triangulated by using three methods of data collection to gather maximum and well rounded information about the presence of gifted and talented students in Dubai's private schools and what is being done with respect to their assessments, development to nurture their giftedness and talent.

4.3.1 Observation: (classroom Observation)

Children in the classroom with high scores on Raven's Progressive Matrices that coinciding with their high academic scores, also identified by the teachers as being very bright were observed against a checklist for the gifted and talented, in classroom settings, by the researcher as an educator and by the teachers of their respective grades.

Checklists:

3 checklists were used to gather information about the boys who had highest grades in class also they achieved the highest scores on Ravens Standard Progressive Matrices.

The first checklist was marked by the researcher, as an educator, observing the boys in classroom settings. This checklist is present in the Appendix, as the checklist marked by the researcher/educator.

This checklist was used as a tool to gather and interpret data during observation as a participant in their school settings and in discussions with their teachers.

The second and third checklist was marked by the teachers and mothers (parents), of the gifted and talented boys in grade 5th and 6th respectively. Both these checklists are present in the Appendix as checklists being marked by the teachers and mothers.

The results from the first checklist conducted by the researcher/educator is as follows:

Data gathered by the educator/researcher from the first checklist: (Sabtain, grade 6th)

Cognition:

During the classroom observation, the researcher was able to distinguish that when Sabtain was interested he showed it, but when he was uninterested he would simple be jotting something in his note book.

The class teachers not even once had to explain anything to him. He did not need that attention. He looked calm when others needed to be made things understood in the English Literature and Math classes. Finished class work well before the rest of the students His scores and discussions with his teachers confirm the presence of an excellent long term memory.

His mother confirmed about him being an avid reader. During break times he was with his friends for a little while and after that he started reading a book his teacher had brought for . I was told by his science teacher that these days he is working on an unusual science research on his own. But seeks guidance from his teacher and shares his research ideas with her.

Perception/emotion

His mother complained of his highly sensitive nature about the world and his unusual ideas about how things are views that are political and different from his age.

Motivation/values

A high range of interests, and extremely self motivated. Cares about his pets, and is already penning down their various eating, and lifestyle habits that make each one of them unique from each other. Reads books of different kinds and has filled his room with it, his mother's complain. Very honest, cannot bear any injustice, speaks against it, as marked by his mother. Very independent and studies alone and has never required any help.

Activity and Social Relations

Has extremely long attention spans, this is only because he is naturally good at what he does in his studies and that has a chain effect, it keeps him more interested in turn. But it was observed by me, and confirmed by his teachers and mother that he has a broad range of interests and pursues them together. His social relationships though are not so many in the class room as confirmed by the teachers of his grade.

Data gathered from the second checklist: (Rayo, grade 5th)

Cognition:

As observed by the researcher in his class, Rayo was alert and answered in class at all times. Rayo is good in studies, as marked by his scores on his class reports. An activity board in the class room conveyed his activities furthermore, since he scored a golden star in almost all subjects except Physical Education.

Perception/emotion

He is highly sensitive, but sometimes in the negative way, since his teacher complained that he could not put up with other student's inadequacies in groups and gets readily frustrated.

Motivation/values

Learns independently, and does not require any tutoring as was made clear by his parents. Has a broad range of interests from computers to languages, which he pursues relentlessly on his own.

Activity and Social Relations

Prepares acts and presents skits at school parties, as confirmed by his teachers and parents and likes school functions/parties. But is not very social, confirmed by his parent's desire to see him have more friends.

4.3.2 Structured Interviews:

The interviews were kept structured to gather a steady flow of important questions.

- Summation of the structured Interviews, conducted from, the class teachers of grade 5th and 6th consecutively, where the above mentioned Raven's Standard Progressive Matrices tests were conducted ; regarding the students with the highest scores on the test coinciding with

their academic high grades; and also about the school and its policies regarding the gifted and talented.

- The class teacher of the gifted and talented boy in grade 5th and grade 6th, each were given a checklist to mark the characteristics in order to further gain evidence about the giftedness of these two children.
- Structured interview was conducted with the mothers of the boys whose grades were exceptionally high, on Raven's Progressive Matrices and academically as well, plus was identified by the school and teachers for his giftedness.
- The mothers of both these boys further were requested to undertake a checklist each, whilst contemplating the interviews. Hence this checklist forms a part of the interview.

Summation of the structured interview with the class teacher of the gifted and talented boy in grade 6th is as follows:

Highlights from the interview, conducted with Sabtain's class teacher, Mrs. S.B. (the interview is present in appendix:

- ✓ The teacher had formal training as a teacher and a masters degree in English literature
- ✓ The teacher has worked in several schools before joining her current school, where she has been working for the past ten years.
- ✓ She confirmed coming across gifted children during her tenure, and at present she said she is teaching Sabtain in grade 6th. He is extremely gifted, comes first in class, and has a research oriented approach.
- ✓ He was given a double promotion last year. Although he missed school for most part of last year, due to family problems, yet that did not stop him from achieving a double promotion.
- ✓ He doesn't have too many friends. Slightly introvert.

- ✓ Schools should increase teacher's salaries if they want teachers to give more time and attention to the gifted and talented children.
- ✓ Schools should have formal assessments for these children.
- ✓ The talent and gift of these children should not be wasted.
- ✓ After the interview, his class teacher filled a checklist, for the gifted and talented, he fulfilled 92% of the criteria on the list.

Summation of the structured interview with the class teacher of the gifted and talented boy in grade 5th is as follows

Highlights from the interview, conducted with Rayo's (grade 5) class teacher, Mrs. J. (the interview is present in appendix):

- ✓ Joined the current school in 1992. Holder of MSc degree.
- ✓ Personal knowledge about gifted and talented entails a lot of reading and research.
- ✓ Rayo is a brilliant boy, speciality is languages. Already he speaks more than 5 languages. Currently he is trying to learn Japanese on his own.
- ✓ Answers all the time in class. He finishes his class work first, too.
- ✓ Lack of interpersonal skills, gets frustrated in groups when others are slower than him.
- ✓ Was recently labelled by his class mates as being 'arrogant', due to impatience.
- ✓ But teacher confirms, he is impatient and not arrogant, though other children don't see it that way.
- ✓ He likes parties, prepares skits, and performances on his own.
- ✓ Is not particularly close to anybody in school.
- ✓ No policy in the school in particular for extremely gifted and talented children except for accelerations.

- ✓ Suggests that now the time is that new policies are going to bring forth this important matter in private schools of Dubai.
- ✓ At the end of the interview his class teacher filled the checklist for gifted and talented children, Rayo fulfilled 90% of the criteria on the checklist.

Summation of the structured interview with the mother of the gifted and talented boy in grade 6th is as follows

Highlights from the interview, conducted with Sabtain's (grade 6) mother, Mrs. T.R.:
(the interview is present in appendix)

- ✓ Excellent memory is confirmed by mother.
- ✓ Former school (in Chicago, USA) arranged testing, IQ 145-150. Was given advanced Mathematics
- ✓ Both parents are doctors.
- ✓ Parents consider all schools same or similar as per standard is concerned.
- ✓ Quiet boy, keeps to his own self, watches movies with cousins.
- ✓ Does not like games or toys.
- ✓ Likes music. Likes to read a lot of books.
- ✓ Has 4 rabbits.
- ✓ Has unusual ideas about what he observes as world politics, and what is going to happen at the turn of the century, what should the human race do achieve salvation etc.
- ✓ Dislikes help with his work finds the idea tiresome and boring.
- ✓ Likes antiques and has a lot of knowledge in antique furniture, rugs and paintings.
- ✓ Favourite subjects in school are mathematics and arts.
- ✓ At the end of the interview, she was asked to fill a checklist for the gifted and talented children, Sabtain fulfilled 89% of the criteria on the list.

Summation of the structured interview with the mother of the gifted and talented boy in grade 5th is as follows

Highlights from the interview, conducted with Rayo's (grade 5) mother, Mrs.K. (the interview is present in appendix)

- ✓ He liked books as soon as he was introduced to reading and started reading at 3 ½ .
- ✓ A privately done assessment concluded IQ at 139+, intellectually gifted.
- ✓ School has hardly any provisions for gifted and talented children.
- ✓ Does not have too many friends.
- ✓ Likes to prepare skits for school parties. Sings in the parties in the different languages, at times even prepares funny songs. Recently was given a certificate for his good performances.
- ✓ Studies independently.
- ✓ Loves to learn languages.
- ✓ New passion in learning computer skills.
- ✓ Private schools must have more provisions for gifted and talented children.
- ✓ The parents completed the checklist, on which Rayo scored 95%, on the criteria for the gifted and talented children.

Unstructured Interviews:

Unstructured interviews were conducted by the heads of two leading private schools in Dubai.

- a) The policy of the school regarding the gifted and talented. The amount of support/provisions extended by the school for the assessments and development of the gifted and talented studying in their school.

A summation of the interviews (a) (b), according to the topics covered, is as follows:

Highlights of the interview conducted with the Headmistress of a leading private school in Dubai is as follows (the interview is present in the appendix)

- ✓ Qualifications: A double masters, in Commerce and in education. A PhD in education.
- ✓ With the present school since 1999.
- ✓ A lot of knowledge regarding gifted and talented children.
- ✓ Confirms the presence of gifted and talented children in Dubai's private schools.
- ✓ Recently tried to train teachers, by bringing in school a program for differentiation, regarding gifted and talented students.
- ✓ Teachers were unwilling to take the training.
- ✓ Because of KHDA all schools are now making efforts, including theirs.
- ✓ Emphasizes need for clearer policies, regarding gifted and talented children.
- ✓ Confirms the existence of psychological problems in these children: for example, they retreat, stop making an effort etc.

Highlights of the interview conducted with the Headmistress of a leading private school in Dubai is as follows (the interview is present in the appendix)

- ✓ Qualifications: A masters and Phd in Economics, and masters in Educational psychology.
- ✓ A lot of experience in this field.
- ✓ Education for the gifted and talented is a cultural issue.
- ✓ Present school has differentiation and acceleration for Gifted and talented students.
- ✓ Currently a student in grade ninth, was accelerated.
- ✓ Class teacher contacts the social worker who in turn contacts the parents of gifted and talented students.
- ✓ Parents of the girl informed the school, and school accelerated her only after she topped all the sections of her grade for two consecutive years.

Questionnaires:

Questionnaire surveys were used as a tool to gather rapid and direct information and opinions about people serving in different private schools in Dubai. Schools undertaking four different curriculums were mainly observed, since they form the majority of the schools in Dubai: the Indian curriculum, the Arabic curriculum, the American curriculum, the UK curriculum and the Pakistani curriculum. These are also the most preferred schools by curriculum type, in Dubai.

To gain accuracy in data many variables were kept constant such:

- 10 schools following each curriculum were undertaken to gather data for the questionnaire survey.
 - 2 schools had Indian curriculum,
 - 2 had Pakistani curriculum,
 - 2 followed the English curriculum,
 - 2 had the Arabic curriculum
 - 2 had the American system of studies for their students.
- In each school one questionnaire was filled by
 - One principal, in each of the 10 schools
 - 2 teachers, in each of the 10 schools
 - 2 school supervisors in each of the 10 schools
 - 2 social workers, working in each of the 10 respective schools.

While filling the questionnaires the participants were given full autonomy to add extra points and answers where ever they considered it necessary.

Gathering results from questionnaires was the most difficult task since they had to be interpreted many a times. The answers coinciding with each other were grouped and the

answers that were different were presented as such. The help of the teachers from these schools was commendable since they went back and forth to the people and helped in coordinating everything.

Following is the detailed data and results gathered from the questionnaire survey.

1) Range of participant’s qualifications and their experience in the field of education:

Can be viewed below in the grid:

	Qualification	Experience
Principal	Masters to PHD	15-25 years
Teachers	Bachelors to Masters	10 years to 20 years
Supervisor	Bachelors in social sciences	10 years to 15 years
Social worker	Bachelor’s degrees	10 years to 15 years

2) Formal degree in the field of gifted and talented:

10 Out of 10 principals confirmed their formal learning that has equipped them with the tools to acknowledging the presence of the gifted and talented.

12 out of 20 teachers and all 20 social workers had formal education in gifted and talented Education. 6/20 supervisors consider training of the concept vital for the school staff, in spite of their qualifications.

3) Provisions for the gifted and talented in Dubai’s private schools.

Four schools had double promotions if the student managed to stand first in his grade for a consecutive 2 years or if he/she managed to top all the other sections in his/her grade. Two schools had provision of a special math program for gifted and talented children. Three schools were practicing differentiation, in a very simple way by just providing some difficult work sheets to the gifted and talented students. None (0/10) of the schools had any formal assessments that they would conduct to assess if a child was gifted and talented. The schools

considered formal assessments and training to be the responsibility of the parents. There was no formal policy for individual assessment, in any of the 10 different private schools.

2) The solution for Dubai's private schools with regards to the policies towards the gifted and talented students:

4 out of 10 principals want the KHDA to come up with a formal centre where assessments would take place for the gifted and talented children.

2 out of 10 principals considered it the parent's responsibility and held lack of funds as a big difficulty in fulfilling their goals as academicians.

All 20 teachers considered the pay scale for teachers to be a big hindrance in the fulfilment of their goals as teachers.

Six social workers and four supervisors consider it a major issue and definitely consider low pay scales for school staff as a de motivator, when it comes to fulfilling goals for gifted and talented.

5) Presence of gifted children in Dubai's private schools

- 8 out 10 (8/10), that is >80% of the principals, reported to have come across gifted and talented pupils during their tenure.
- All the teachers reported to have gifted and talented students during their work as teachers, 4 even reported to have them presently in their classes, these students reportedly have formally been assessed by assigned bodies, outside the school. The teachers saw these reports brought in by the parents but are unable to provide much support without the support of the school, in question, in this regard
- Six social workers have gifted and talented children in their present place of work.

6) Recommendations for the gifted and talented, in Dubai's private schools.

- 4 out of 10 principals consider the formal assessments an essential part of identification of gifted and talented children. 6 principals consider 3 of the choices as important: formal assessments, lesson modification and emotional guidance.
- 6 teachers consider special classes and lesson modifications an important part of the training of gifted and talented children. 5 teachers consider emotional guidance of utmost importance.
- 6 social workers consider emotional guidance as a provision and all 20 supervisors considered formal assessments and emotional guidance to be of major importance regarding the gifted children.

7) Gifted and talented is a special needs issue:

- 8 out of 10 principals, consider it to be a special needs issue.
- 8 out of 20 teachers consider it a special needs issue that needs to be dealt with.
- All social workers consider it to be special needs issue.

8) The emotional problems of gifted and talented children are similar to other children of their age:

- 4 out of 10 principals considered the emotional problems of these children similar to their age group. But 6 out of 10 considered their emotional problems to be majorly different.
- 8 out of 20 teachers considered emotional problems of these children to be similar to those of their age group. 12 teachers consider their emotional problems to be different.
- 10 social workers consider them having different emotional problems and 10 found their emotional problems same as their age group.

9) The emotional problems encountered by the gifted and talented children:

- 6 out of 20 teachers consider lack of interest in their studies a major issue for these children. 4 out 20 considered depression to be an issue for these children. 5 considered boredom to be an emotional problem.
- 16 out of 20 social workers consider depression to be highly prevalent due to boredom with the present material.
- 6 out of 10 principals consider lack of interest in studies present in these children due to their need for more challenging materials.

10) Are the emotional and intellectual problems co related, do they disappear with time or do they grow bigger:

- 4 out of 10 principals considered these problems to grow bigger, 4 out of 5 considered them part of growing up. 1 out of 5 considered it wasting the potential of the gifted and talented children.
- 16 out 20 teachers considered it a serious issue that had to be addressed.
- 20 out of 20 social workers considered it to be a serious issue.

Chapter 5 A Comprehensive Discussion:
Analysis, Recommendations and Conclusion

5.1 Introduction:

This section entails comprehensive analysis, in depth discussion and recommendations regarding the research questions presented in Chapter 1. The research questions are answered separately to give clear and in depth answers.

The data described and stated in the previous chapter is analysed and suggestions/recommendations are rendered in this respect.

It is important to analyse and look around us in the world, where the best practices are taking place regarding the identification and development of the profoundly gifted and talented. Analysis and suggestions then can be made in the light of those best practices aligning them in the context of Dubai.

5.2 Research Questions addressed:

Research Question 1: Is it meaningful, useful, and reliable to evaluate people according to a single major dimension of cognitive competence called intelligence testing or is it unfair?

Research question one, addressed:

- g or general intelligence is what differentiates intellect and it is measurable, hence reliable(Chapter 2 in this research paper has detailed analysis in this regard).
- Also the g or general intelligence is biological as proven by modern science, this also makes this justified that g or general intelligence should be measured in order to help

them cope with their unique capacities. (Chapter 2 , page 21.of this research paper has detailed documentation in this respect).

Research Question 2: Is there really a co relation between IQ scores and academic scores?

Research question two, addressed:

- The g or general intelligence is measured by IQ tests. Is IQ biological or environmental, the answer to this question lies in depth in chapter 2 (page 21), but to simplify, the answer is that it is biological. As this has been proven by scientists and researchers in the last century. High IQ does contribute to easier learning and the quest for more challenging material. Therefore a child with a higher IQ than the rest of his peers, will witness the same material to be easier than them. He will thus get good marks good academic scores as long as the material does not start to bore him, sound routine or mundane to him. His academic scoring will be effortless most of the times since he/she has a higher IQ or g. While the same material will require harder work by his class mates.
- IQ scores and academic scores are co related, as research proves this co relation to be .81. which is a strong positive co relation (Deary, 2007). The co relation between IQ and educational attainment is also a positive one (Lynn, Mikk, 2006).
- Here the noteworthy factor is that if two children perform score excellent and similar results in class, are they both intellectually same. One child could be a hard worker and the second one with the high IQ scores these excellent marks with much lesser effort. This can only be found through an IQ test, that who is the high IQ based achiever. The high IQ based achiever will have emotional and academic needs that will need to be dealt with as he/she progresses in school.

Research Question 3: If the co relation does exist then how can it be used in a positive way to help cognition or learning ability in children? (Recommendations and suggestions)

Research question 3 addressed: Since now we have confirmation that not only the co relation does exist but also that it has biological connotations, we are in the right position to divulge that gifted and talented children form a niche of their own and they must be helped in such a way that positive traits are enhanced and negative traits should be dealt with. Many examples have been discussed with in this chapter (Chapter 5), under the heading “types of gifted education” and also when we discuss the gifted and talented education around the world, numerous examples are there to observe how much importance is being given to gifted and talented education and development.

Research Question 4: What is the status of the education of gifted and talented in the private schools in Dubai, in terms of assessments and their development?

Research question 4 addressed: the answer for this question is present under the analysis, recommendations and conclusion part of this chapter (Chapter 5).

5.3 Why is IQ testing important for gifted children?

It is important to recognize that all children with atypical (delayed or unusually fast) development need complete diagnosis and early recognition to ensure the development of their capabilities. (Tokyo Childrens Academy, 2010).

IQ testing is important because after formal identification parents can approach the school for lesson modification or maybe accelerated math etc. The assessment centre also provides recommendations with regards to the child’s development to achieve full potential.

5.3.1 Importance of Early Identification

Gifted children when these children are identified earlier, the more favourably their development was and they were able to achieve their true potential better than those who had

identification later on. And this is the responsibility of educators to take responsibility by helping to identify, and develop these children. (Hollingworth, 1931). Research indicates that exceptional qualities in children, such as being extremely slow or being extremely fast in learning and development are exposed in children, as early as 18 months of age. (White & Watts, 1973). Since we all agree as educators that gifted children are also children with special needs, since it is another branch of special education. Then we can very well ascertain its early identification to be vital, if we want their gifts to be of any service to the society and in general to the world that we live in. (Silverman, 1986).

5.4 Dubai's public schools, with respect to the education for the gifted and talented:

Let us have a brief view of the public schools in Dubai and evaluate their contribution regarding provisions for the gifted and talented. Currently there are 79 public schools versus 145 private schools in Dubai. As discussed by a senior official in the MOE, the MOE has 5 Psychologists in each educational zone (10 educational zones totally). These psychologists conduct IQ tests for the gifted and talented from the public schools. A student is rendered gifted when 3 conditions are fulfilled: a) His/her academic achievement is 95% or above. b) His/her IQ is 130 or above. c) He/she is good in all the activities. A student is rendered talented when he/she shows considerable mettle in the fields of arts, sports, creativity, or in any special subject. A committee is present in every school, called the "caring for the gifted and talented". Its members are the principal of the school, the social worker and 6 teachers from the school responsible for teaching Arabic, Science, Math, English and computer activities. This committee first judges the student on the above mentioned 3 categories for the gifted and talented. Then if the child is rendered pass on all three categories for the gifted, he is judged by the education ministry on the following criteria: a) IQ b) previous achievements c) teacher's observations d) creativity e) academic achievements 95% or above f) standard

academic achievement test g)Personal interview of the child h)personal interview of the child i)parent's observations j)colleague's observations k)how much he is into activities at the school. After deciding upon all of these the student is rendered as gifted and talented. Enrichment programs are present for the gifted and talented students in the school only. These are mostly project based and the student works on a project from the subject he/she is good in. At the moment no public school exists which is only for the gifted and talented but a proposal had been approved last year by the MOE for the establishment of 20 schools for the gifted and talented. The above mentioned information was acquired by a senior working member of the MOE, in Dubai.

5.5 Best practices around the world:

In order to implement best practices in the private schools in Dubai, it is critical to analyse the best practices in this field, around the world.

USA: The department of education responsible for each state determines the needs and budgets to be addressed regarding each state. This is for the public schools. But on the private level, thousands of schools exist such as this free private school, 'the Children's Storefront School', in New York City where they accommodate and modify instructions as per individual children's needs, according to NY gifted education examiner (Adams, 2010), Cougar Mountain academy, King county, is a private school for highly capable children that provides individualised education and accelerated academic curriculum.

In Japan, the first and only school for the gifted opened its doors in May, 2009, offering individualized education appropriately challenging to one's capabilities and not on the basis of chronological age.(Tokyo gifted Academy, 2009).

In China, the concept of giftedness is divided into: academically gifted and artistically gifted. Private school's tuition fees are monitored by the Ministry of Education and they are forced to be low. Now when private schools offer extra classes for the gifted and talented

children, this forces the public schools to offer such classes too, to stay competitive. It was not until 1985, National Conference on Education, the need for gifted education was not given its due place in the education systems. (The China Post, 2006).

Singapore has school based programmes for Gifted and talented students where the students take their non-core subjects such as physical education, art and music with the rest of their class, such programmes in schools are called IP or Integrated Programmes, initiated in 2004 and the opening of NUS High School of Math and Science in 2005, efforts by the Singaporean education system are clear with regards to the gifted and talented. In the beginning, Singapore MOE (Ministry of Education) had a GEP (Gifted Education Program) but later on it was replaced by the IP programme and private schools such as the NUS High School for Math and Science were incepted.(Asia One, 2009).

In Korea gifted education gained momentum since 1983, and has not looked back. A new law has been passed, the Gifted Education Law, effective now since 2002. This law has founded a legal frame work for gifted education, in three ways: Gifted high schools, gifted education centres (a pullout program operated by school boards and universities), and pull out classes for gifted students in regular schools.(Park, 2006)

The list of these countries is endless, such as Canada, USA, UK, Germany, France, and almost the entire developed world has devised assessment and curriculum for gifted and talented children. Developed and even developing countries of the world are researching on top of all the research that has already taken place and are coming up with new and newer findings on how to have better provisions for the gifted and talented children among their population. Here the researcher has reported on just a few, the South East Asian countries and the West (USA).

5.6 Types of gifted education:

Education programs for the gifted and talented children can be of various types, the most implemented are as follows:

Enrichment: activities can be in the same class room in an integrated environment, by providing students with more enriched and more challenging material than their class mates.

Acceleration: When children cover the material faster and more easily they are accelerated and they get to study what is for children higher in age, than they are. (MOE Newzealand, hand book for schools, 2010)

Differentiation: In this kind of a program, the teacher adapts the instruction material in such a way that each student gets instructions as per his/her capabilities. Because research indicates that all students perform in harmony when given work according to their abilities, ll emotional and psychological dilemmas can solved if children are given work as per their ability.

Pullout programs: Can be in the same school, where children are taken to special classrooms, for advanced mathematics or for more challenging material in an area of their strength.

The list of these programs goes on, since all the developed countries of the world have developed gifted and talented programs to suit their needs. Above were just a few types mentioned to give the reader an idea regarding these programmes.

5.7 Factors that have contributed to the growth of the gifted education around the world:

Education for the gifted and talented is one of the most researched and well documented areas in the field of educational research as we can observe from the amount of concern, research, analysis, controversy and development it has gathered since the past century.

- The main reason is because it is regarding children, but also because these children possess extraordinary intellect that can bring about positive results for the whole world.
- Education for the masses has become extremely routine, this has caused countries like USA, UK, Canada, Australia, Japan, P.R.O.C., West Germany, Soviet Union, and the Scandinavian countries have developed individualized education, enrichment programs for their gifted and talented children. Soviet Union has even gone as far as to, searching in their own rural hinterlands to search for the gifted and talented children, in order to be able to develop their potential further.(Echa News,2010)
- One most important factor contributing to the growth of the education for the Gifted and Talented is the private schools, in these countries. The private sector has played an important role here, by establishing schools that cater to the needs of the gifted and talented. Limitations for gifted education. In all the countries around the world the private sector has come forward with the help of the MOE, and has established criteria for identification and development for the gifted and talented children. (Mitchell, 1991).

5.8 Conclusion:Analysis, Recommendations:

The analysis, recommendations which constitute our conclusion cannot be complete if we do not mention the barriers that hinder gifted education and the benefits of gifted education.

Firstly let us look at the barriers that hinder the process of implementation of the gifted and talented education in Dubai's private schools:

Barriers for the Gifted and Talented Education

- Lack of funds. This factor has a chain effect and it gives birth to a lot of factors such as absence of motivation, and lack of acknowledgment about this problem.

- Lack of Qualified teachers.
- Difficulties with identification
- Teacher's lack of knowledge about the need of training in this regard. Having a gifted and talented student, is not a situation that a school has to encounter every day. This is why schools and teachers are least prepared when they actually have a gifted and talented child. That is why it is of utmost importance that the school works in close co operation with the parents and vice versa. (Kondrat, 2009).
- Lack of incentives and lack of adequate pay for teachers.
- In general, lack of resources.
- The major cause is lack of policy implementation. Even when policies are made, schools try to go around them rather than implementing them properly.

Although the above mentioned limitations remain, yet what is important to observe around the world is that although limitations to the gifted education do act as a barrier, yet many nations around the world consider not only their own survival but also the survival of planet earth depends upon the education of the gifted and talented. (Mitchell, 1991)

Benefits

Let us briefly view some of the benefits from the implementation of special education for the gifted and talented in Dubai's private schools.

Implementation of provisions for the gifted and talented in Dubai's private schools will mean specialization and lowering of the commercialization aspect that has seeped into Dubai's private schools.

The gifted and talented students from these schools will highlight Dubai's name, when they will have careers and innovations in science and technology, ensuring the welfare of not only their country of residence (Dubai) but of the whole wide world.

Gifted and talented students from these schools will put Dubai as a leader in education with respect to the education of gifted and talented.

Presence of gifted and talented children in Dubai's private schools is highlighted, by various means in this research paper: Through psychometric testing, through Observation, use of questionnaires, and Interviews. Also the lack of provisions in the private schools is also evident from the data gathered in chapter 4 'Research Findings'. The most common provision is acceleration, as we can see in the light of this research paper. The second most common provision that comes to light is differentiation. Differentiation is practiced only in its simplest form, that is, worksheets are given to students who are faster than the rest of the grade, if they finish their work faster. Even for training in terms of gifted and talented, we encountered that teachers have a lack of inclination to want this training. Lack of assessments is another problem, that follows, lack of acknowledgement. The private schools in Dubai seem to be ignoring the mere presence of these children, let alone, the fact that they need to have different and more specialized education.

It is imperative that these students should be recognized, acknowledged and assessed. Also they need to be given appropriate lessons that are in line with the special gift and talent bestowed upon them by nature. Dubai has always been fast in adapting itself to the world, in bringing best practices, best services and best goods to ensure a high standard of living for its people. But the private schools in Dubai in spite of all the efforts on the part of MOE lag behind when it comes to the education of the gifted and talented.

When we observe the public schools in Dubai, a lot is being initiated and done in terms of education for the gifted and talented, regarding their assessment, their enhancement and their development. Although they are not the preferred choice since more than half of the citizens of Dubai go to private schools. The higher number of students attending Dubai's private

schools is in itself a proof of these schools being favoured more by the population of Dubai (national and expatriates). Therefore being the preferred choice of school increases the responsibility, forever more, on these schools, to be able to take care of their different individual needs, as far as education is concerned.

Dubai can perhaps follow Singapore's example and have intermingling of both sets of students in the same school. Which means that the gifted and talented students upon identification, attend their non core subjects with the rest of their grade, but their core classes they take with students of the same gifted strength.

Barriers such as lack of resources should be overcome by strategic planning and organizing, to rise above them in order to start initiatives, for the assessment and educational provisions for the gifted and talented in the private schools in Dubai.

Now that we have come to the end of this research paper the most important thing that the researcher would like to convey to her readers is that this topic is a very vast topic. However every effort has been done to give the readers a clear but well rounded perspective of this topic. The important areas of this topic have been researched and documented thoroughly.

This topic is a very important topic not only from the gifted child's perspective but from the perspective of the community of the world. Because human potential is a gift of God and to realize and utilize this potential is the duty of the humans. We owe to these children and to the world to help develop systems, for the assessment and development of the potential present in these children. At present in the private schools in Dubai, gifted and talented children are waiting for policies that are well implemented regarding their assessments, nurture, and development to enhance their potential, and to save them from the emotional sensitivity that is the prerogative of their inner potential, to enable them to give back to the world, all the understanding of human nature, that it really deserves.

5.9 Summary/abstract

This research paper highlighted the following issues:

- The major importance of private school in Dubai, since a majority of Dubai's children is studying in the private schools.
- The private schools are important for the not only the expatriates but also for the citizens of UAE, as well, due to their strength in subjects such as English, Mathematics and Science.
- This study was also able to research and identify the presence of children with high IQ.
- Raven's matrices IQ test was done, to gather data, to prove the actual presence of gifted and talented children in Dubai's private schools. It was found that the IQ results were positively co related to their academic reports/marks.
- This data was further triangulated by observing these children on a checklist by the educator, then interviewing their teachers, also by interviewing their mothers.
- Information was taken regarding provisions and policies from the teachers, parents, and heads of leading private schools in Dubai.
- Questionnaires results were scanned and obtained from 10 different schools in Dubai, where these questionnaires were done by the principals, teacher, social workers, and supervisors. Data was gained regarding the presence, policies and provisions for the gifted and talented in their private schools in Dubai
- This research also gathered data and information regarding the policies, practices, training and provisions, regarding dealing with high IQ children or more specifically the gifted and talented children.

- Students with high IQs were observed through IQ tests and research was done, to find out how their potential is being developed and nurtured in Dubai's private schools.
- Dubai's private schools although offer a wide variety of curriculum choices (as highlighted in chapter: Education in the UAE) yet there are hardly any choices available for the gifted and talented children. The most that was found was differentiation and acceleration. There are no formal assessments no formal provisions for the gifted and talented in the private schools in Dubai.
- A private school has total discretion on its part if it wants to have a provisions or not regarding the gifted and talented children studying in their school.
- Since there is no intellectual acknowledgement therefore their emotional well being is largely ignored too. It is not looked into that they require special emotional guidance. As is clear from Rayo's example (the gifted and talented boy in grade 5th, in this research paper), he got labelled as being arrogant when he was impatient at the slowness of other children of his own age, in a group situation. While the intellectual capacities of these children need provisions their emotional capacities need guidance too.
- Private schools in Dubai, need to:
 - i) Acknowledge the presence of the gifted and talented children, and develop proper assessment centres for them, or assign one or more centres for their assessments.
 - ii) Set out programs for the development of the gifted and talented children, as per their particular requirement.
 - iii) Formulate proper guidelines for the emotional well being and guidance for these children
 - iv) Train their current staff to better understand and acknowledge the gifted and talented children.

v) Train the present staff to be able to provide modified lessons and programs for the gifted and talented children.

vi) The private schools of Dubai need to also have resources to provide their teachers, with better provisions so that these teachers are more incentivised to take training regarding special programs for the gifted and talented children in the private schools in Dubai.

Private schools of Dubai need to recognize this shortcoming and not just consider it a matter of no importance, since gifted and talented children are as much a special needs issue, as is the disability/inability special needs.

- When we look at the history of this topic (chapter 2) we can observe the amount of work that has been done in this respect, yet it has been almost completely ignored in the private schools in Dubai. The presence of these children cannot be ignored any longer in these schools. As we can notice, regarding their emotional and intellectual well being, it is important to start serious provisions for the gifted and talented children in Dubai's private schools, following around the world examples, so that the potential of these children does not change into a wasted potential since this will not only benefit these children but it will also benefit Dubai, which is their home and to their bigger home in general which is the world that we live in.
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References

- Adams, A. (May 5, 2010), "Is gifted education a civil right", *Gifted Education Examiner*,.
- Adams, A. (2010), "Spotlight on the children's storefront school, a free private NYC K-8 for children of all abilities", *NY gifted Education Examiner*
- Anderson, J., and D.Berdie. (1972), *Graduate Assistants at the University of Minnesota*. Minneapolis: University of Minnesota Measurement Services Centre
- Arksey, H., & Knight, P. (1999). *Interviewing for Social Scientists: An Introductory Resource with Examples*. Thousand Oaks: SAGE Publications
- Asia One (2009), "Gifted education an integral part of Singapore's education system",., Sept 15
- Attwood, E.D.,(2010). KHDA slams 'commercialized' UAE schools. Arabian Business.com Available at: <http://www.arabianbusiness.com/581089-KHDA-head-slams-over-commercialised-schools>
- Binet,A,and Simon,T.(1916).The development of intelligence in children. Baltimore, Williams and Wilkins. Reprinted 1973.
- Boeree, C.G. (2003), "Intelligence and IQ",.,Shippensburg University.P.A.
- Britannica Concise Encyclopaedia (2008), , Encyclopaedia Britannica, Inc..
- Cohen, L.,& Manion, L. (2000). *Research Methods in Education*.Routledge.p.254. (5th edition)
- Columbus Group. (1991), *Unpublished transcript of the meeting of the Columbus Group*. Columbus, OH.
- Dabrowski, K. (1972). *Psychoneurosis is not an illness*. London: Gryf.

Deary, I., Strand, S. & Fernandez, C. (2007), "Intelligence and educational achievement", *Intelligence*, vol. 35, no. 13, pp.

Denzin, N. K. (2006), *Sociological Methods: A Sourcebook*, 5th ed, New York: McGraw-Hill

Douglas, E. (July 7, 2006), *Gifted, Talented, Addicted*. Available from: <http://www.AddictionInfo.org>

Dryden, J. (2010), "*Performance IQ and gene link confirmed*",,,Washinton University Scool of Medicine.NIAA.NIDA.

DSIB. (May 17, 2009), *Report gives first-ever picture of what dubai's schools are really like* . Available from: Annual Report 2009, Web site: <http://www.ameinfo.com>

Ebony. (October 1999). "How to improve your child's IQ", vol. 54, Johnson publishing company

Echa News (2010), "Gifted Education in Russia a special program at a Moscow school", *European Council for High ability*,,.

Erdos, S. (1957), "how to get higher returns from your mail surveys", *Printers ink*, vol. 258, no. pp. 30-31.

Eric Clearinghouse (2000), *Early Childhood Special Education-Teaching Strategies* . Available from: <http://eric.hoagiesgifted.org> [Accessed: June 2, 2010].

Fallows, J. (May 21, 1989), "what's wrong with testing?except for supressing the talented, protecting incompetents, and making us less productive-Not much", *Washington monthly*, vol. 21,.

Florida State University (January 15, 2009), *Education Professor dispels myths about gifted children*. Available from: Florida state university, Web site: <http://www.sciencedaily.com>

"Gifted, talented and abandoned", (2010), *Telegraph view*, Jan 24,.

Glascher, J., Rudrauf, D. & Colon, R. (February 22, 2010), "Distributed neural system for general intelligence revealed by lesion mapping", *Proceedings of the National academy of Sciences*, Columbia University. New York

Gottfredson, L. (2004), "Schools and the G factor", *The Wilson Quarterly*, vol. 28, no. 3,

Gross, U. & Gross, M.(1993), *exceptionally gifted children*, Routledge, Newyork. pp.iii

Gulf News (2010), *Dubai's population grows 7.6% as recovery sets in*. Available from: <http://www.UAEInteract.com> [Accessed: March 2, 2009].

Gulf News. (29th January, 2010). Gems seeks independent review into KHDA, as new Modern High campus opens today.[Accessed: May 25, 2010].

Hollingworth, L. S. (1989), *Children above 180 IQ Stanford and Binet: Origin and development*, Yonkers on Hudson world book company, Newyork

Hollingworth, L.S. (1931), "How should gifted children be educated?", *Baltimore bulletin of education*, vol. 50, no. pp. 195-198.

Heylighen, F. (2003), *Characteristics and Problems of the Gifted: neural propagation depth and flow motivation as a model of intelligence and creativity*, ECCO, Evolution, complexity and Cognition research group, University of Brussels

Johnson, S. K. (2004), *Identifying Gifted Students: A Practical Guide*, Prufrock Press Inc, Waco Texas.

Kearney, K. (2008), The 10 most Commonly asked questions about gifted children. *Understanding our Gifted*. Available from: <http://www.hoagiesgifted.org>

Kerlinger, Fred N. (1973) *Foundations of Behavioral Research*. 2nd edition. Holt, Rinehart and Winston

Khaleefa, O. & Lynn, R. (2008), "a study of intelligence in the UAE", *Mankind quarterly*, vol. 49, no. pp. Questia

Khaleej Times, (Jan 20,2010)."More national's moving into dubai's private schools", (2010),

Knowledge and Human Development Authority.(2009). The role of international assessments and school inspections in the reform of education in Dubai. Government of Dubai

Kondrat, A. (March 3, 2009), "Identifying Gifted and Talented Children: IQ Tests and Behavioral Characteristics of the Gifted Children ", *Parenting a gifted child*

Lewis, K. (2010), "Private schools take half of Dubai's Emirati children", *The National*, Jan 19

Li,Rex. (1996).A theory of Conceptual Intelligence: Thinking, Learning, Creativity and Giftedness. Westport, CT: Praeger Publishers

Lohman, F.D., Korb, K.A. & Lakin, J.M. (October 7, 2008), "Identifying Academically Gifted English Language Learners Using Nonverbal Tests. A Comparison of the Raven, NNAT and CogAT.",

Lynn, R. & Mikk, J. (2006), "National differences in educational attainment", *Intelligence*, vol. 35, no. pp.

Lynn, R. & Vanhanen, T.(2002), *IQ and the wealth of nations*, CT Praeger, Westport
Gifted Children Quarterly, vol. 52, no. 4, pp.

Mackintosh, N.J.(1998). *IQ and Human Intelligence*. Oxford. Oxford University Press.

MacEvoy, J. & Orr, S. (1993), "The Raven Matrices and Navajo Children: Normative characteristics And Culture Fair Applications To Issues Of Intelligence, giftedness, and Academic Proficiency. *Journal of American Indian Education*", *Journal of American Indian Education*, vol. 33, no. 1, pp. 2.

Marland, S. P. (1972), *Education of the gifted and talented: Report to the Congress of the United States by the U.S. Commissioner of Education and background papers submitted to the U.S. Office of Education*, US government printing office, Washington DC

Mcdaniel, M.A. (2003), "Big-brained people are smarter. A meta-analysis of the relationship between in vivo brain volume and intelligence.", *Department of management, Virginia commonwealth university*.

Merriam-Webster's Online Dictionary, s.v.(2008)"questionnaire," <http://www.merriam-webster.com/dictionary/questionnaire>

Miles and Huberman, 1994.*Qualitative Data Analysis*. p.40

Ministry of Education.,(2010). "highlights of the ministry of education's strategy 2010-2020", *the Official magazine of dubai e government*, . Government of Dubai

Mitchell, B. (1991), "From Afghanistan to Zimbabwe: Gifted Education in the world community", *The National research Centre on the Gifted and Talented*,.

Ministry of Education Newzealand (2000), *Gifted and Talented students meeting their needs in Newzealand schools*, Learning media.

Murray, C. (January 18, 2007), "With a high IQ comes need for special education", *Wall Street journal*,.

Naglieri, J. A (2003), *Naglieri Non Verbal Ability Test: Individual Administration*, The Psychological corporation.

National Committee for Research Ethics in Norway (2006), *GUIDELINES FOR RESEARCH ETHICS IN THE SOCIAL SCIENCES, LAW AND THE HUMANITIES*

O'Donoghue, T., Punch K. (2003). *Qualitative Educational research in action: doing and Reflecting*. Routledge. P.78.

Park, K.M. (2006), "Gifted Education in Korea". In *Gifted Education in Mathematics*, Hongik University

Patton, M. Q. (1990). *Qualitative research and evaluation methods*. Newbury Park: Sage Publications

Private Schools Directory and Guide 2010 part of the Independent Schools Network., Private Schools Directory 2010, PGG 2010.UK

Raghunathan, E.T. & Grizzle, E.J. (1995), "a split Questionnaire survey design", *American Statistical association*, vol. 90, no. pp.

Ramavarán, T. (2010), "Unleash your creativity", *Khaleej Times*, Mar 10, .

Raven, J. (2003), *Raven J.C Court.General Overview*, Information Press, Oxford

Reese, T.W. (2008), "The application of the theory of physical measurement to the measurement of psychological magnitudes, with three experimental examples. ", *Psychological Monographs*, vol. 55, no. pp. 1-89.

Resnik, D.B., J, D. (2010), "What is Ethics in Research & why is it Important?", *National Institute of environmental Health Sciences-National Institute of Health*,,

Roedell, W.C. (1984), "Vulnerabilities of highly gifted children", *Roeper Review*, vol. 6, no. 3, pp. 127-130.

Salama, S. (2009), "investing more money not always the answer", *Gulf News*, May 3,

Sankar, A. (2009), "Private schools bemoan resource crunch", *Gulf news*, May 24, p.

Silverman, L.K., Chitwood, D.G. & Walters, J.L. (1986), "Young gifted children: Can parents identify giftedness?", *Topics in Early childhood special education*, vol. 6, no. 1, pp. 23-28.

Schlinger, Henry D..(2003) "The Myth of Intelligence". *The Psychological Record*. Vol.53. no.1.

Sommers, S. (1981), "Emotionally reconsidered: the role of cognition in emotional responsiveness", *journal of personality and social psychology*, vol. 41, no. pp. 553-561.

Stanford, Pokey.(2003). "Multiple Intelligence for every Classroom". *Intervention in School and Clinic*. Vol.39.no.1.

Stephens, K., Riggsbee, J. (February 1, 2007), "The child neglected by no child left behind", *Office of News & Communications*, Duke University

Sternberg, Robert J. (1998). "Principles of teaching for successful intelligence." *American Psychologist*. Vol.33

Taylor, J. (1977), "Toward alternative forms of social work research: the case for naturalistic methods", *journal of social welfare*, vol. 4, no. 2-3, pp. 119-126.

The China Post (2006), "Schools take different steps for gifted students",, May 21,

The Ministry of Education Strategy, 2010-2020. Aiming in accomplishing a score of 10/10 in all its initiatives. Ministry of Education.

The News Tribune, (2009), "Gifted Children have Special Needs too", *The News Tribune*, Feb 13,

Tokyo Gifted Academy (2009), "Japan now boasts of its first and only school for the gifted: Tokyo Children's Academy (a.k.a. Tokyo Gifted Academy) "

Tolan, S.S. (August 1994), "Discovering the gifted ex-child", *Roeper Review*, vol., no. pp.

Travel Related. (2009). Emirates International Schools question the credibility of Dubai Schools Inspection Bureau's report

Trochim, W.M.K.,(2006).*Research Methods Knowledge Base*. Oxford.

Uae Year Book 2009 (2009), . Available from: <http://www.UAEInteract.com> [Accessed: December 2, 2009].

University of Haifa (March 10, 2009), *Gifted children shape their personalities according to social stigma*. Available from: University of Haifa, Web site: <http://www.scienceDaily.com>

Vasich, T. (2004), "Human intelligence determined by volume and location of gray matter tissue in brain Single 'Intelligence Center' in brain unlikely, UCI study also finds ", *University of California-Irvine*.

Vanderbilt University (December 19, 2006), *Developing our brightest minds*. Available from: vanderbilt university, Web site: <http://www.sciencedaily.com>

Walton, N. (2008), *What is research ethics?*. Available from: <http://www.researchethics.ca>

Webster, M. (1985). *Webster's new collegiate dictionary*. Meriam - Webster Inc

White, B. L., & Watts, J. C. (1973). *Experience and environment* (Vol. 1). Englewood Cliffs, NJ: Prentice-Hall.

Zusne, Leonard.(1984). *Biographical dictionary of Psychology*. Westport, CT: Greenwood Press

Appendix I

Questionnaire

This questionnaire was sent to 10 different schools, offering 5 different curriculums, namely: the Indian curriculum, the Arabic curriculum, the American curriculum, the UK curriculum and the Pakistani curriculum.

In each school 7 questionnaires were filled, one questionnaire was filled by the principal, two were done by the teachers, two by school supervisors, and two by the social workers, in each respective school.

The Questionnaire is present on the next page; please turn the page over, to review the questionnaire.

Questionnaire

This questionnaire survey is an attempt to investigate the provisions in the private schools in Dubai, as part of a research paper, in contemplating the degree of MEd in the British University of Dubai.

Your co operation in filling this questionnaire survey is vital and is overwhelmingly appreciated by the researcher.

The topic of the research being contemplated is as follows:

Is Academic Excellence in School Children Based on IQ:A review of private schools in Dubai regarding the gifted and talented

Kindly continue with the questionnaire below, marking the appropriate answers of your choice with a tick .

Questionnaire

- 1) Please, mark your position in the school, from the choices given below:
 - a)Principal
 - b) Teacher
 - c) Social worker
 - d) Supervisor

- 2) How many years have you been in the field of education as a student and as an educator/teacher?
 - a) Less than 5
 - b) More than 5
 - c) More than 10
 - d) More than 15

- 3) Do you have any formal degree or training in the field of educating the gifted and talented?
 - a) Yes
 - b) No

c) Knowledge gained by self teaching

4) Does your school (your current school) have any provisions for the gifted and talented? If yes, then which of the following they can be categorized, as?

- a) Formal assessments
- b) Modification in teaching
- c) Double promotions or acceleration
- d) Other methods
- e) None of the above

5) What is the solution, according to you, for the private schools in Dubai, in order to provide education for the gifted and talented students?

- a) Better qualified teachers
- b) Policies by the Ministry, for private schools
- c) Private schools that offer teaching for gifted and talented children
- d) More incentives to the teachers so they themselves are more inclined and focused towards their gifted and talented students.

6) Have you come across any gifted or talented children in your tenure as a teacher?

- a) Yes
- b) No
- c) If yes, then Has it been more than once that you have encountered a gifted and talented child

7) Recommendations given by participants, regarding the provisions for the gifted and talented?

- a) Formal assessments
- b) Acceleration or double promotions
- c) Lesson modifications

8) Gifted and talented is a special needs issue, that needs urgent attention?

- a) Yes
- b) No

9) Do gifted and talented children encounter problems similar to other children, emotionally, while growing up?

- a) Yes
- b) No

10) If you have answered the above question as Yes, then what are the emotional problems of Gifted and talented children?

- a) Boredom
- b) Lack of interest in studies, since they find the material unchallenging
- c) Depression
- d) Any two, together, from above
- e) All three, together, from above

11) Are the emotional problems of the gifted and talented related to the intellectual problems, for the gifted and talented children?

- a) Yes
- b) No

12) If left unaddressed, you have encountered these problems to grow more or do they subside with time?

a) The problems subside or disappear with time

b) The problems don't go away; they have chance of wasting the potential of the gifted and talented children if left unaddressed.

Thank you for your co operation: any further inquiries or suggestions can be sent to the researcher at @: ghazalaallana@yahoo.com

Mobile: 050-6315900

Comments

Any extra/additional comments can be added to the above box, thanking you for your co-operation.

(Structured interview questions)

The questions for the structured interviews conducted by the teachers and senior staff members , in Dubai's leading private schools are as follows

Since the interviews were structured, the questions were predetermined to avoid confusion and lack of focus from the main issues, yet at times the flow of questions was let go, to get more information than the ones in the following questions.

Q1) How many years have you been teaching in this school and I am sorry to ask this, but it is important for my assignment to know about your formal qualifications?

Q2) Do you have any formal qualification in the field of education, or any formal or informal education or knowledge about the gifted and talented children?

Q3) Have you come across any gifted and talented children in your tenure as a teacher? Also tell me about _____ ?

Q4) What is his performance like, in class?

Q5) How would you describe his emotional and social behaviours?

Q6) Does the school as such have any formal policy for the gifted and talented students or not?

Q7) What is your recommendation for such children and for the private schools in Dubai, such as your school?

Appendix III

Structured interview for the Teachers

Structured Interviews: These interviews are presented in their rough format, no words have been added or subtracted, and where the interviewer left a sentence unfinished or was not too clear in her answer, it has been left, as it was.

This interview was conducted in the school, after the initial formalities were over the interview was commenced.

Anonymity of names and identities was assured by the researcher and the importance of the interview was stressed, with regards to the research. Mrs. S. B. is the name of the teacher being interviewed. She is the teacher of the boy who is in grade 6th and was cooperative since she considered it invaluable that the boy was finally getting recognized. The name has been abbreviated to protect the identity of the person concerned. After the initial greetings were exchanged the interview was commenced. Seriousness of the purpose was adhered to at all times.

Interview (1) , Sabtain's (grade 6) Class teacher Mrs. S.B.

Interviewer: Q1) How many years have you been teaching in this school and I am sorry to ask this, but it is important for my assignment to know about your formal qualifications?

S.B: I have worked in several different schools before this one, and in this school i am teaching now for the last ten years. I have masters in English Literature.

Interviewer: Q2) Do you have any formal qualification in the field of education, or any formal or informal education or knowledge about the gifted and talented children?

S.B: Yes whilst i was attending my masters classes i took teachers training classes in my home country, where my interest grew in this area.

Interviewer: Q3) Have you come across any gifted and talented children in your tenure as a teacher? Also tell me about Sabtain?

S.B: Yes, a few times, once i had an exceptionally intelligent girl studying in my class, and she had the most amazing memory. At present I am teaching Sabtain, he is exceptionally gifted. Since I am his class teacher, i observe him closely. Apart from the occasional childishness he is very smart in his behaviour. He is exceptionally brilliant and always comes first in class, has a very research oriented approach which and many more facts make me assess him as his class teacher and the rest of the staff here as being gifted and talented.

Interviewer: Q4) what is his performance like, in class?

S.B: He has been in double promoted last year, also never gives any problems in understanding the class material. Scores the highest marks in class, his mother were called to school and she confirmed that the boy was assessed in Chicago, USA, where the family was settled until the year 2007.

Interviewer: Q5) How would you describe his emotional and social behaviours?

S.B: His emotional and social behaviours do not seem very different from the rest of the children, except that he doesn't have many friends. He hangs out with just two or three boys, as i have noticed and sometimes i notice that he is not very attentive in class. Last year there were family problems which his mother came to discuss with the Head of the school. He was absent for most part of the year from school. But that did not stop him from achieving his double promotion.

Interviewer: Q6) So the school as such does have any formal policy for the gifted and talented students or not?

S.B: No, the school is not willing to go into this at all, except for the fact that outstandingly performing children are rewarded by double promotions, if they go on receiving outstanding results the student is then given a double promotion, it means he is promoted two classes not just one. And in Sabtain's, case it was justified.

Interviewer: Q7) What is your recommendation for such children and/or for the private schools in Dubai, such as your school?

S.B: Frankly speaking, schools need to look at the pay scales of the teachers, in order for them to put more responsibility on the teachers. Also there should be formal assessments for these children, and then we can take it from there. But the talent and gift of these children should not be wasted.

Appendix IV

Interview (2) , Rayo's(grade 5) Class teacher

This interview was conducted on a one to one basis with the interviewer and the interviewee, the interviewee shall be denoted the initial Ms. J., due to ethical issues to respect her identity. Ms. J., teaches Rayo, who is studying in grade 5.

The interviewer recorded the interview this instance because of time restraints, with the permission of the interviewee:

Interviewer: Q1) How many years have you been teaching in this school and I am sorry to ask this, but it is important for my assignment to know about your formal qualifications?

Ms. J.; I will complete 18 years in the same school in this coming September. I joined in 1992 and since then i have learnt and taught a lot in this school. Formally i have an MSc. And i teach science to grade 5 and 6 in this school.

Interviewer: Q2) Do you have any formal qualification in the field of education, or any formal or informal education or knowledge about the gifted and talented children?

Ms. J., I have been in the field of education now for so many years that it has made me rich in experience and knowledge. No, i don't have formal degree or education for the gifted and talented, but nowadays it is such a major issue around the world, that since this is my field, i have read a lot about this in libraries, internet and everywhere i go we see this issue. Just this other day my niece who came from India was telling us about the twin girls, who study with her and how they regarded as academic geniuses.

Interviewer: Q3) Have you come across any gifted and talented children in your tenure as a teacher? Also tell me about Rayo?

Ms. J., Plenty of times not just me but my colleagues tell me about students who are brilliant without effort. About Rayo, all i can say is that he is brilliant, very well mannered. And he is an all rounder, without doubt. His speciality is languages. He can already speak more than 5 languages. At the moment he is learning Japanese, on his own. We, (the school staff) met his father. He was congratulated by us in the 'parents/teachers meeting' which is not always for all parents.

Interviewer: Q4) what is his performance like, in class?

Ms. J., He is not only good but answers all the time and is always the first to finish. His home works are on time. But he is not always very helpful in group situations. I have divided the class in groups. The other day he got frustrated by a group member in his group and was about to punch him, when i intervened. He was labelled as being 'arrogant' after that. Although we, as teachers understand that he is not arrogant, only a little impatient. But children around him don't feel that way.

Interviewer: Q5) How would you describe his emotional and social behaviours?

Ms. J., I just told you something about his behaviour in group situations, besides this he is the life of parties, since he is learning some music too. At this young age already whenever there is some party we ask him to come up with a song or some musical performance, which he normally always does. He is well mannered to his teachers but not close to anybody i feel maybe to his family, at home. But in school he has not particular friend or friends.

Interviewer: Q6) So the school as such does have any formal policy for the gifted and talented students or not?

Ms. J., That's something, isn't it that there is no formal policy for these children. The only thing i do is give them double promotions or acceleration and in the last 22 years i have come across gifted and talented children many times. They normally get into the best overseas universities as they stay in our school, where the standard of education is very high.

Interviewer: Q7) What is your recommendation for such children or for the private schools in Dubai, such as your school?

Ms. J., It is in the hands of the higher people, to do something about this. But i am sure something will be in the pipeline already, since now there is too much being done about Dubai schools, and now private schools are facing much more monitoring than before.

Appendix V
Structured interview Questions

(Parents)

Interviewer: Q1) Did you know from the beginning that your son/daughter had a special gift intellectually? What were the earliest signs about his giftedness that you can remember?

Interviewer: Q2) Are you satisfied by the school your son is attending in Dubai?

Is he being given appropriate education and attention as per his needs?

Interviewer: Q3) Do you notice any behaviour pattern unique to your son/daughter? Does he study alone or with some tutors?

Interviewer: Q4) what are his/her hobbies?

Interviewer: Q5) what are his/her favourite subjects?

Interviewer: Q6) what is your suggestion for the gifted and talented students in Dubai's private schools?

Appendix VI
Structured interview for the parents

Interview (3) ,Mother of Sabtain(grade 6)

The boy's mother was very cooperative and the interview that took place was extremely informative. The interview took place in a small cafe under the building of where the child resides at present. After the initial formalities, we both began the interview, since time was short.

Interviewer: Q1) Did you know from the beginning that Sabtain had special gift intellectually? What were the earliest signs about his giftedness that you can remember? Did Sabtain have any formal assessments?

Mrs. T.R.: We are a very educated family. His father is a doctor, I am myself a doctor too but I gave up practising after he was born because he was born after 5 years of my marriage. He showed signs very early of giftedness, for example, whilst sitting and watching news on TV, he would hear some news and then recall it with details and numbers that would astonish my husband and me. And we would be thinking he has not even paid attention to it. He would question us about countries and the affairs of the world. Since he was born in Chicago, USA, while in school there his teachers started to tell us about his extraordinary educational achievements in class, they arranged testing for him with the local psychologist. After his IQ was assessed 145 to 150, we took it a little seriously. He was given math a grade level higher than the rest of his class.

Interviewer: Q2) Are you satisfied by the school your son is attending in Dubai?

Is he being given appropriate education and attention as per his needs?

Mrs. T.R. : I don't want to complain too much but the truth is that no, not at all. My husband has many issues with this school regarding their quality of education but we have yet not been able to identify any other school, which would have any better standards besides the fees are a major issue. But if there is a better school for my son we would not consider money to be an important issue at all.

Interviewer: Q3) Do you notice any behaviour pattern unique to Sabtain?

Mrs. T.R.: He is a quiet boy, usually keeps to himself. But he is not very interested in games and toys. Instead he likes music and watches movies with his cousins. He also likes to visit antique shops and likes to prepare food in the kitchen, which is something very different. I encourage him though our Asian culture doesn't like it much. But we let him do what he wants. He has a small 4 small rabbits at home. He cares for them too much. His views about the world and many things are very surprising and different from even what we as adults see and observe.

Interviewer: Q4) Does he study alone or with some tutors?

Mrs.T.R.:No so far he has never required any extra help, the school is good and his father helps him sometimes on weekends. Once or twice a family friend volunteered to look into his studies, to our surprise, Sabtain refused to take help. The family friend just wanted to do it for leisure, but Sabtain got bored and this was when he were in Chicago. Here also his father wants to look at his work, which Sabtain doesn't like or enjoy very much.

Interviewer: Q5) what are his hobbies?

Mrs. T.R.: He has hobbies recently like listening to music. He reads books a lot at home, for leisure. We have a hard time putting his books at home because in his bedroom the books are filling his cupboards, his toilet, and now our lounge. He reads normally fiction only sometimes true stories or biographies. His passion for the antique markets makes him collect gems, and he is always predicting which gems are likely to become extinct with time. He makes these predictions because of reading about them. He also prefers antique rugs, furniture and paintings and seems to know a lot about them. He loves to go around the old markets in UAE to find interesting stuff.

Interviewer: Q6) what are his favourite subjects?

Mrs.T.R.: His favourite subjects in school are Mathematics and Arts.

Interviewer: Q6) what is your suggestion for the gifted and talented students in Dubai's private schools?

Mrs. T.R.:

Appendix VII

Interview (4) ,Mother of Rayo(grade 5)

The school had contacted Rayo's father and informed him about my purpose of visit. He gave a time, for me to visit them in their house in Dubai and also gave the school permission to let me talk to him. Upon calling him, i found out that his wife is Japanese and needs translation to conduct the interview, since she speaks little English. He suggested that he will translate whilst i interview.

I reached their villa, and as we exchanged formalities i judged quickly that Rayo's mother speaks good English, than what i was anticipating. His father was present to help us since i didn't want to delay more. We started the interview, which is as follows.

His father translated wherever necessary, but i have written the answers in English, to avoid any confusion, because it was not necessary to mention where the translation was done and where it was not done.

Interview conducted with the mother of Rayo studying in grade 5.

Interviewer: Q1) Did you know from the beginning that Rayo had special gift intellectually? What were the earliest signs about his giftedness that you can remember? Did Rayo have any formal assessments?

Mrs. K.:The earliest signs were his learning patters for example he was reading while at home at 3 or 3 ½. We were bringing and giving him books, for which he used to save up, when all children of his age were buying candies and toys. He was not very articulate though. Yes, Rayo had formal assessments, in 2008, by a private educational psychologist in Dubai. His IQ was assessed to be above 139 + and he was considered gifted also they said if we work on his intellectual gifts, they will grow more.

Interviewer: Q2) Are you satisfied by the school your son is attending in Dubai? Is he being given appropriate education and attention as per his needs?

Mrs.K: The school is a good school but they have hardly any provisions for gifted and talented children.

Interviewer: Q3) Do you notice any behaviour pattern unique to Rayo?

Mrs.K.: Yes we want him to have more friends since he hardly has any. We are always encouraging him to bring them home, and he never does.

At parties he sings and often in different languages, sometimes a funny song or sometimes just a song. But his school even gave him a certificate for preparing good performances. He puts all his efforts into preparing, writing and then adding music to his songs.

Interviewer: Q4) Does he study alone or with some tutors?

Mrs.K.: He studies alone always. And there is no need for us to think or consider any extra help, since he has not required it yet.

Interviewer: Q5) what are his hobbies?

Mrs.K.: He loves to prepare his musical performances, and loves to learn languages.

Interviewer: Q6) what are his favourite subjects?

Mrs.K.: Right now we feel computers is his passion. He loves to learn as much as possible and does much more than his school work in this subject, besides this languages are a hobby plus school work for Rayo.

Interviewer: Q7) what is your suggestion for the gifted and talented students in Dubai's private schools?

Mrs.K.: They should have more provisions in the private schools for the gifted and talented children after all they are an important part of the society.

Appendix VIII

Unstructured Interview conducted with the Headmistress, in one of Dubai's leading private schools. The questions were not predetermined but were asked according to the topic and a flow of meaningful questions was tried to be maintained.

Interviewer: Q1) what are your formal qualifications? And how many years have you been with this school as a head?

Interviewee: I have a PhD in Education. Also i have double masters, one in Economics and one in Education. The field of education has always been my passion and i have been actively involved in it since a long time. I taught in many countries before i settled in Dubai, in this school, in 1999, as their Principal.

Interviewer: Q2) Do you have any formal qualification in the field of education, or any formal or informal education or knowledge about the gifted and talented children?

Interviewee: Since education was my field, i have a lot of knowledge about gifted and talented children and I do a lot about their welfare personally. Its a major issue and unless a country doesn't acknowledge the presence and development of these children, there is going to be major issues in its progress.

Interviewer: Q3) Have you come across any gifted and talented children in your tenure as a teacher?

Interviewee: Definitely, we come across such children and we monitor their progress and their emotional well being, and take care of them a lot.

Interviewer: Q4) Does your school have any formal policy for the gifted and talented students or not?

Interviewee: Well when we talk about such things, then we as a school have to rise above the policy we have to work harder than what is the minimum requirement as per the policy. for parents to appreciate us and respect us. We recently availed a program from the British Council in Dubai, it was regarding differentiation in studies for the gifted and talented students. But we had a lot of problem in implementing it since the teachers were not ready to take those classes. There was a lot of attitude and ego problem. The teachers were of this opinion that they are in this field for many years already and know a lot now they don't need any more training. Only a few teachers were willing and felt that it was necessary. And now the ministry is very strict about a school we don't want our school to get a bad rating.

Interviewer: Q5) Does not have any provisions for the development of the gifted and talented children studying with them?

This question has already been answered in Q4.

Interviewer: Q6) What is your recommendation for such children or for the private schools in Dubai, such as your school?

Interviewee: we have problems, that should be looked into such as the lack of funds, teacher's lack of training in this regard and policy implementation is a key factor. Here schools have this attitude that what goes on should go on, however things are changing since KHDA has started to rate schools. Everybody is making efforts now.

Interviewer: Q7) Is the absence of such provisions, in a regular way, is affecting the gifted and talented children studying in Dubai's private schools negatively?

Interviewee: The absence of proper and detailed policies, clear in context are going to change things. Normally such children at times retreat, and stop making an effort and that is when the negative effects start normally.

Appendix IX

Interview conducted with the Head of a private school in Dubai.

Interviewer: Q1) your current position in this school as a head of this school is for many years? And what are your qualifications, i apologise about this question, but it makes up an important part of my complete interview?

Interviewee: I was in the branch of this school in UK, before joining here, 6 years ago. I have a Masters and a PHD, in Economics. I did another Masters in educational psychology as i was teaching in the UK.

Interviewer: Q2) Do you have any formal qualification in the field of education, or any formal or informal education or knowledge about the gifted and talented children?

Interviewee: yes my experience with the gifted and talented is related to my education as well as my work, so i have had a lot of experience in working with them.

Interviewer: Q3) Have you come across any gifted and talented children in your tenure?

Interviewee: These children form the top two percent of the children in USA and around the whole world also, i would say. But there is a lot of difference in the way things are handled; it's a huge cultural issue.

Interviewer: Q4) Does your present private school have any formal policy for the gifted and talented students or not? Do you have any formal assessments?

Interviewee: My school has a policy towards differentiation; we provide accelerated studies to students who require it. But the class teacher collaborates with the social worker and then we ask for the parent's attention in this regard.

Interviewer: Q5) Is this a policy of your school or is it a requirement that you have to fulfil as a school? At the moment how many gifted and talented students do you have in your school?

Interviewee: It is our own policy, there is no formal requirement for us to do this. At the moment we have one student in grade 9 she was accelerated.

Interviewer: Q6) What are the provisions that you have for her as gifted? Did the school or parents get her assessed?

Interviewee: Her parents approached the school with proof of formal assessments. The social worker keeps in touch with her parents about her progress. She had acceleration, since she topped all the sections of her grade and that also for two consecutive years, at the moment, that is what we will let her handle.

Appendix X

Classification of IQ:

IQ	
130-145	Moderately gifted
145-160	Highly gifted
160-180	Exceptionally gifted
180 +	Profoundly gifted

(Gross, Miraca, 1993)

Checklists

The checklist has been obtained from Austega, which is a resource, for gifted and talented children produced and developed as one of the major resources used by Australian schools, educators and parents to define and detect gifted and talented children. It has been built by AAEGT, which is the Australian Association for the Education of the Gifted and Talented.

The following is a list of characteristics for educational professionals, teachers and parents to observe gifted and talented children. It is not a must that a gifted child will have all these traits at the same time.

This checklist was filled by Sabtain's (grade 6), teacher, Ms.S.B.
and also by Rayo's (grade 5), teacher, Ms.J.

This checklist was filled by Sabtain's (grade 6), parents.
and also by Rayo's (grade 5), parents.

“the term ‘gifted and talented’ when used with respect to students, children or youth means those who show evidence of high performance capability in areas such as intellectual, creative, artistic, or leadership capacity or in specific academic fields, and who require services not ordinarily provided by the school in order to develop such capabilities. (p.388. Johnsen, 2004)

The giftedness traits are broadly divided into the following groups:

General intellectual ability

Specific academic aptitude

Creative thinking and production

Leadership

Psychomotor ability

Visual and performing arts

These broadly divided groups then form checklist for each group, they are as follows.

<i>General intellectual ability</i>
<input type="radio"/> Is an avid reader
<input type="radio"/> Has avid interest in science or literature
<input type="radio"/> Delivers fast and alert answers for questions
<input type="radio"/> Has a wide range of interests
<input type="radio"/> Is emotionally secure

○ Wants to do new things, an entrepreneur
○ Extremely curious, asks many questions
○ Original in oral and written ideas
○ Uses commonsense a lot
○ Is persistent has inner drive, self driven
○ High energy levels
○ Independent
○ Friendly and outgoing
○ Achieves good grades, has outstanding memory

Specific academic aptitude
○ Extremely long attention spans
○ General intellectual ability is more one or few fields
○ Has more affiliation for some subjects, than others
○ Spends free time on projects and assignments voluntarily, that interest him
○ Broader perspective beyond his/her age

<i>Creative thinking and production</i>
○ Fluently produces and elaborates, ideas
○ Unusually associates distant ideas
○ Thinking patterns, are flexible
○ Strong intuition ability, is able to sense things faster
○ Spontaneous
○ Tolerant of uncertainty
○ Has uninhibited expression
○ Intense concentration
○ Sometimes, radical views
○ Playful but intellectually, lots of fantasy and imagination
○ Tries to improve things
○ Keen sense of humour, where others don't see it so fast.
○ Accepts being different
○ Without own judgement, doesn't accept authoritarian attitude
○ Gets bored with memorization
○ Produces sometimes 'silly' answers. And sometimes is considered by peers as 'crazy'
○ Has a wide range of interests

- A good imagination, highly creative

Leadership

- Can stimulate and motivate others
- Easily recognizes others skills
- Has good social skills
- Can articulate ideas very clearly
- Is a good listener
- Gives directions clearly
- Knows how to lift the group's mood, when necessary
- Often asked to give suggestions and ideas
- Looked upon by others to decide something
- Can organise and co ordinate people and work
- Is responsible as a leader or non leader in group situations
- Prefers older companions or adults
- Morally sensitive, shows compassion, concerned with justice and fairness

Psychomotor ability

- Is athletic
- Has a keen interest in music
- Is energetic
- Invents, constructs and modifies games
- Demonstrates endurance ,stamina and a sports man's spirit in games
- Co ordinate and confident in physical activities
- Good at jigsaw puzzles

Visual and performing arts

Are Music, dramatics and Art

Music

- Possesses a good sense of rhythm
- Avid listener of many different types of music
- Can differentiate between different musical sounds

- | |
|-----------------------------------------------------|
| <input type="radio"/> Is responsive to rhythm |
| <input type="radio"/> Expresses feelings with music |
| <input type="radio"/> makes tunes |
| <input type="radio"/> enjoys dancing |

Dramatics

- | |
|--------------------------------------------------------------------------------------------------------|
| <input type="radio"/> has keen interest in dramatics |
| <input type="radio"/> readily shifts into the role of an animal, character or object |
| <input type="radio"/> enjoys stirring others by means of generating emotional responses from listeners |
| <input type="radio"/> ends a story dramatically, in a well timed manner |

Art

- | |
|----------------------------------------------------------------------------------------------------|
| <input type="radio"/> Keen on drawing a variety of objects |
| <input type="radio"/> Puts depth into drawings |
| <input type="radio"/> Willing to try out new ideas |
| <input type="radio"/> Voluntarily enjoys art in free time |
| <input type="radio"/> Interested to pursue and appreciate art |
| <input type="radio"/> Likes to model three dimensional art, such as clay, carving, plasticine etc. |

Checklist II

Following is the checklist developed by Francis Heylighen, a major researcher in the field of gifted and talented children. This checklist was marked and summary of the findings was reported in chapter 4 of this research paper.

Four broad areas are categorised as follows:

Cognition:

fast learner,
creative
rich imagination.
Excellent long term memory
Avid reader
Broad range of interests

Perception/emotion

Sensitive
Good sense of humor
Intense feels
Introvert
Open to new experiences
Stable, emotionally

Motivation/Values

Self driven
Perfectionist
Visionary
Expects differences between self and others, with calm

Activity and Social relations

Extremely energetic
Empathetic
Feels different
Long attention spans
Sincere, and high morals

Appendix XII

Epilogue

Raven's Progressive Matrices were imported by the researcher, especially, since they formed a major part of this research.

Upon contacting 2 Educational Psychologists in Dubai, the researcher was informed and advised to contact Harcourt Assessments Inc. and import Raven's Progressive Matrices, since they were unavailable in the city.

Extensive research about these tests was able to prove that these are extremely reliable, non-verbal, IQ tests that can be used by educators, psychologists and social workers.

Harcourt Assessments Inc., established since 1921, priorly operating as 'The Psychological Corporation' was contacted in Florida. Their London based branch being closer to Dubai, was contacted, and thereby these tests were imported.

It was very important to check (before the researcher went ahead, checking the acknowledgement and provisions for the gifted and talented children in Dubai's private schools) that there was a co-relation between 'academic excellence and IQ'.

For this, purpose 2 small random sample populations of 15 children of 2 grades were chosen.

- 15 children of grade 5th
- 15 children of grade 6th

The exam results of their last two years were coincided with their IQ test results.

A positive co-relation of 0.98 for grade 5th and 0.88 for grade 6th was established. Both times it was a positive co-relation, since in the language of statistics; co-relation is one of the most common and most useful statistics. A Co-relation is a single number which describes the relationship between two random variables. And a co-relation between +0.7__ +1.0 , is a strong positive co-relation.

The cooperation of the school in question and the class teachers was commendable. Without their help this could never have been achieved.

Following this the two class teachers of grades 5th and 6th, where these tests had taken place, were interviewed: regarding the students who scored highest on exam results + IQ tests. They

were questioned regarding the provisions in their respective private school, regarding the gifted and talented.

Questionnaires were sent to leading private schools of Dubai, to gather data regarding the presence, acknowledgement and provisions for the gifted and talented studying with them. In each school the principal, 2 teachers, 2 social workers and 2 supervisors filled the questionnaires.

Observation was conducted by the researcher; parents of the gifted and talented children, studying in grade 5th (Rayo) and grade 6th (Sabtain) were interviewed regarding their perspective about the provisions for the gifted and talented in Dubai's private schools.

Extensive data was researched in the form of document research.

The results of this research are in front of the readers, of this research paper.

But it still remains that without this psychometric test (Raven's Progressive Matrices), its prompt exporters (Harcourt Assessments Inc.), this research paper would have been impossible to conduct and achieve.

In the same way that we say that to draw a circle we need to have a point, we can now say that that this research has come, full circle.

I hope that this research is able to play an important role in the welfare, acknowledgement and provisions for the gifted and talented in Dubai. And if it does that, then the whole effort that was painstakingly rigorous, for conducting this research will be justified.

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were questioned regarding the provisions in their respective private school, regarding the gifted and talented.

Questionnaires were sent to ten leading private schools of Dubai, to gather data regarding the presence, acknowledgement and provisions for the gifted and talented studying with them. In each school the principal, 2 teachers, 2 social workers and 2 supervisors filled the questionnaires.

Observation was conducted by the researcher; parents of the gifted and talented children, studying in grade 5th (Rayo) and grade 6th (Sabtain) were interviewed regarding their perspective about the provisions for the gifted and talented in Dubai's private schools.

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