

GIFTED EDUCATION PRESS QUARTERLY

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Thomas A. Edison
Hero of Giftedness



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I would like to discuss two books which clearly address some important problems in the gifted education field. Harry Roman has written about planning and implementing STEM programs for middle and high school level gifted students, **STEM—Science, Technology, Engineering and Mathematics Education for Gifted Students: *Designing a Powerful Approach to Real-World Problem Solving for Gifted Students in Middle and High School Grades*** (Gifted Education Press, 2011). He is an environmental engineer and instructor at the Thomas Edison Innovation Foundation in West Orange, New Jersey. The underlying educational philosophy is as follows: “Like all my educational books and articles, I write from the perspective that the world is both inter-disciplinary and multi-dimensional, a viewpoint derived from 40 years of engineering and invention. Throughout my engineering career, I have worked with teachers and students from the second grade to graduate school. STEM thinking comes naturally to me and my profession, so I write about it for middle and high school students with a key emphasis on critical thinking, open-ended and context-based problem solving including plenty of suggestions for classroom activities and design challenges.

“I heartily encourage head and hands thinking as an ideal way to engage both the natural intellectual and physical energies of the students. This keeps students engaged, owning the problem(s) they are working on, and learning the value of case studies as an aid in future problem solving challenges. Above all, I want students to be aware of the relevancy of their time in the classroom....and how the ultimate value of their education lies in its competent application. This is a critical factor in global competitiveness.

“For the last 25 years, I have been deeply involved with a remarkable head and hands teaching paradigm known as ‘technology education’— the study of human design and man's impact upon society. Very similar in thinking to the engineering profession, I bring elements of that taxonomy to all my writings, including this, my most recent publication.” Harry’s educational philosophy and book reflect the ideas expressed by several of the speakers such as Senator Joseph Lieberman (CT) and Senator Mark Begich (AK) at the annual luncheon of the Center for

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Excellence in Education (www.cee.org). This spring meeting on Capitol Hill showed the dedication of Joann DiGennaro and her staff to highly gifted students in the sciences and mathematics. High school students, among the top 1% of secondary level scholars in the nation, are selected by CEE to attend the annual summer Research Science Institute at the Massachusetts Institute of Technology.

The second book is concerned with educating gifted minority students. **Reversing Underachievement Among Gifted Black Students** (2nd Edition, Prufrock Press, 2011) by Donna Y. Ford is a comprehensive discussion of major areas concerned with legal and historical perspectives; cultural, social, school, familial and psychological factors related to underachievement and achievement; and promising programs for reversing underachievement. This is a well-written scholarly work containing significant applications to the gifted education classroom. Ford and her colleagues have published many articles in *GEPQ* that can be read by accessing (at no cost) previous issues via our GEP Web Site.

Inside this Issue –

The first article discusses the education of gifted students who have attention deficit disorders. The author, Hanna David of Ben Gurion University at Eilat, Israel, has written many previous articles for *GEPQ* on educating Israeli and Arab children. Her work is particularly applicable to the problems of identifying and teaching gifted minority and twice exceptional students. To encourage research on innovative ways for identifying gifted minority students, I have included the pilot study by Suzanne F. Little (Central Washington University Ellensburg) and Mary Ann Kaesberg (Seminole County Public Schools Sanford, Florida). They report some encouraging findings on using the Kingore Observation Inventory to improve the identification of gifted Black and Hispanic students. Next, Harry Roman writes about the importance of technology education for the gifted, and Michael Walters celebrates the 55th anniversary of the great American musical, *My Fair Lady*, a major work of creative thinking and production. **Maurice Fisher, Ph.D., Publisher**

Learning Disabilities, Attention Deficit (Hyperactivity) Disorder, and Intelligence¹

Hanna David, Ph.D. Ben Gurion University at Eilat, Israel

Raising a learning disabled child is indeed a great challenge to the whole family. The parents need to invest a lot of time, energy and money in order to find the best experts that will help her or him reach a minimal educational level in spite of the disability. A gifted learning disabled child presents even a bigger challenge for parents who know they can "reach high," but they must not only persuade the child, but in many times even themselves, that the initial potential has not disappeared, in spite of the frequent history of learning failures.

Parents expecting high achievements from their learning disabled child are quite commonly perceived by their immediate social and familial circle as unrealistic. The teachers, counselors, and even the whole educational team interacting with the child are quite often unwilling even to accept the term "gifted disabled." Some teachers think the child has low abilities and "pushy" parents, and they are unwilling to give the child an opportunity to learn at a high level and offer challenging subjects or a high prestige learning track. Other teachers acknowledge the high abilities, but cannot believe the child is learning disabled, and thus do not allow benefits from the learning mandated facilitations, refuse to cooperate with the support system needed, and sometimes even mock the child for being lazy, pretentious or claiming undeserved rights.

Many children with the double label, of giftedness and learning disability – fall between the cracks: on the one hand, they do not receive a gifted education, as their leaning disability prevents them from realizing their potential. They are not even perceived as gifted, because in the giftedness identifications exams they do not get the minimal scores needed for inclusion in the gifted group. On the other hand, because of their actual achievements (though not matching their cognitive abilities), they are high enough to be perceived as regular, average students rather than being disabled. In many cases they are defined as unmotivated students, who "obviously" could have obtained better grades had they tried harder.

The rate of children with high intelligence, who are talented, creative and even gifted, but also learning disabled or having Attention Deficit (Hyperactivity) Disorder, is much higher than identified gifted students having these disabilities. The main reason is that a gifted child is very likely to activate a developmental compensation mechanism, namely – high cognitive abilities will help to hide the disability. Thus, while the actual achievements of such a child would not be high, they would neither be low enough as is usually expected from a learning disabled child. Average or even mildly low learning achievements are not necessarily an indicator of a learning disability, so that a gifted disabled child would be perceived as having lower abilities than the real ones who are not learning disabled.

Even when a parent or educator suspects that the gifted child is learning disabled, the disability might be discovered at a late stage. Let us think, for example, of a grade 2 school boy capable of doing complicated calculations very quickly, far beyond his peers, but unable to master reading. It is likely that suspicions about him being disabled will appear only after his classmates have already acquired both reading and writing skills, and he had already formulated the self identity of "slow," "lazy" or even "dumb." In cases of dyslexia of a child with very high cognitive level, the disability might be discovered as late as grades 5 or 6. There are many anecdotal stories about children who have made it a habit to "read" their homework from an empty notebook; of others who had a long-lasting arrangement with peers for whom they did the math homework and helped prepare them for tests. In return these peers copied the assignments from the blackboard for them, wrote down what the gifted disabled friend asked them to, and whispered in their ears the written question the teacher asked the gifted disabled child to answer orally. It can be assumed that the higher the child's cognitive abilities, the greater is the risk of not being identified as learning disabled at an early age. The result is that the possible treatment, and in all cases, the management of the disability will start late, sometimes far too late.

In this article, I have presented two cases of 4-year old children with Attention Deficit Disorder. Both children had high intelligence, but they had not been identified as gifted. The "gifted label" does not actually matter, although it is important to know that many children with a learning disability, some of whom are very talented, are at risk of

¹The Hebrew version of this article was published in the *Hebrew Psychology Online Journal* and Retrieved on December 18 2010 from: <http://www.hebpsy.net/articles.asp?t=0&id=2539>. Thanks to Ms. Efrat Even-Tzur for her valuable remarks and suggestions.

a frustrating life caused by their inability to achieve highly in their strong, exceptional areas. Furthermore, a high percentage of talented dyslectic children would have to face social, emotional and familial problems. I have already discussed in detail the early development and the course of life of a young boy – now a university student – who had been identified as both gifted and dyslectic (David, 2009); in July 2011 I am to present his case at the Annual Conference of the International Centre for Innovation in Education (ICIE) in Istanbul (David, 2011).

Attention Deficit (Hyperactivity) Disorder among Highly Intelligent Children

The occurrence of learning disabilities or AD(H)D and giftedness in the general population is not high. The frequency is obviously influenced, among other factors, by the local definition of giftedness. In the US, for example, giftedness is defined by the measured IQ: when the "floor" is an IQ of 130, about 3% of the children are defined as "gifted." When it is 125 or even 120 – about 5% or even 10% of the children are entitled to the "gifted" label. In Israel, cognitive giftedness is defined by geographical and economic-political parameters. In some towns, cities, villages or settlements, all children whose achievement on the giftedness examinations are at percentile 97 are labeled as gifted, and thus entitled to gifted education. In others, only percentile 98.5 or higher children belong to this category (David, 2008). However, for cases of opening a gifted program that is to serve but a small population, even children belonging to percentile 95-96 are defined as gifted and get subsidized gifted education (David et al., 2009).

Because of the comparatively low rate of gifted children in the population, and the similarly low occurrence of AD(H)D (the US estimation of children with AD(H)D is 3%-5%, Lefever et al., 2003), we would have expected a very low rate of gifted children with this disorder. In practice, many families have more than one dual labeled child, a fact that makes the life of both parents and children even harder. The explanation of this phenomenon is probably connected to a strong hereditary component typical both to giftedness and AD(H)D, as has been found by many researchers. For example Silverman (2009) found that the IQ of each dyad of a parent and sibling or two siblings in the gifted family is no more than 10 points apart. AD(H)D has also been found as highly hereditary (Joseph, 2006; Kent, et al., 2005; Stevenson et al., 2005; Weyandt, 2007).

As a rule there is a high correlation between the attention and concentration span and intelligence or cognitive abilities. This fact is one of the main reasons it is hard for many educators and teachers to accept that a child with AD(H)D can be also gifted. Many parents, as well as school staff members, are not even aware of the possibility that a child with a very high level of abstract thinking will be struggling with ADD.²

There are several characteristics common to gifted children and AD(H)D children. This might cause confusion about these two phenomena and distort the identification process (Chae et al., 2003; Webb et al., 2009; Dogget, 2004). Many gifted children have a very high activity level, which is one component of overexcitability (Dabrowski, 1964; Tieso, 2007). According to Gross et al. (2007), overexcitability helps some of the gifted work intensively for long hours, sometimes on many projects simultaneously. Unlike hyperactive average children, hyperactivity among the gifted is not necessarily considered a problem. The school team has to determine whether there is a problem, and if the decision is that there is, then decide who is to treat it. For example: when the high activity level is accompanied by constant movement, and the teacher feels unable to teach or to keep the other students silent and concentrated, intervention is needed. When the highly active student limits constant movement to his or her own chair – although silently changing activities every few minutes, and not attracting the attention of others – the student can be left to "mind his/her own business."

Unlike children with learning disabilities, various kinds of impairments, chronic diseases or other physical limitations, it is very hard to identify giftedness among AD(H)D children. The most common practice for measuring cognitive abilities of learning disabled children is using the age-proper Wechsler test consisting of 2 parts: verbal and performance, each containing 5 sub-tests. A very large gap between the verbal and the performance parts, or between any two sub-tests belonging both to the verbal or the performance part, is a strong indication to a learning disability. When a physically disabled, chronically ill or sensory impaired child takes the Wechsler test, we compensate for this by using a substitute sense or method, e.g. reading the instructions or the questions aloud when the child is short sighted, or writing them when challenged physically. In such cases we choose but a few of the ten usually taken sub-tests; the tests chosen are those we assume the child can, under the special circumstances, perform optimally.

²In cases of Attention Deficit Hyperactivity Disorder it is much easier to accept the fact that the gifted child has this disorder because hyperactivity leads usually to class disturbance and cannot be ignored.

That is not the case for AD(H)D children. The existence of AD(H)D is determined by the difference between the performance level before and after taking Ritalin. However, because of many reasons it is quite hard to know if the child has reached the highest performance level even after taking Ritalin. One of these causes is the inability to know – especially during the examination phase – if the pill given to the child is the optimal treatment. Research supports the assumption, that a "standard" Ritalin pill, given during the identification of AD(H)D, has no influence on about 25% of AD(H)D children. In addition, it is not very rare that in spite of the fact that the active ingredient in the Ritalin did not influence the child, performance will improve after taking it due to a placebo effect. Furthermore, because of the very large spectrum of AD(H)D, the same Ritalin pill would have a different influence on each of the children taking it. As a result, it is possible that two children taking the same Ritalin pill would perform similarly, but while one of them would have an average IQ, and the Ritalin would have improved performance results substantially, the other would be a gifted child that the Ritalin had not improved attention and concentration very much.

As a result, in most cases the giftedness of AD(H)D children is determined "*de facto*" by their exceptional performance or achievements, as is the case for gifted adults, rather than as "potential for excellence," as is usually the case for children (Ziv, 1990).

AD(H)D as a Risk Factor

It is needless to mention that delaying the treatment of the AD(H)D child and the counseling of parents might be critical. A year in the life of a 4-year old is a quarter of the child's life. A child living 25% of life knowing that you are "always disturbing others," or hearing that "you are not like everybody else in the kindergarten" is not only a traumatic experience, but also an experience whose future consequences are sometimes beyond the ability to perceive, and not always reversible. When a child suffers from any kind of disability, impairment or disorder, and does not receive proper treatment at an early age, the results might be quite acute. An example to this situation is given in the study by Einat and Einat (2007) of Israeli prison inmates. The study showed that about 70% of the prisoners had learning disabilities, 57% had AD(H)D, and about 30% had both. In addition, while the average age of beginning delinquency among prisoners with no learning disabilities or AD(H)D was 22-23, among learning disabled and AD(H)D prisoners it was 12-14, which was also the average age they dropped out from school. This does not mean, however, that people with a learning disability or AD(H)D are doomed for disaster. We all know successful people, especially in the more creative professions, who have reached very high levels in spite of their disability or disorder; some of them have believed that their disability has actually contributed to their professional success. However, we must be conscious of the fact that without proper treatment, the risks for the child, the family and society in general are enormous.

One of the most difficult problems parents of AD(H)D children have to deal with is: "what to do after the diagnosis." It is interesting to discover, that when parents suspect their child has AD(H)D they are willing to pay a large amount of money for repeating the diagnoses without fully understanding the summaries, let alone the full reports. Even when they do understand, they are actually unable to find detailed recommendations except for the most common one – medical treatment, and a little less common – emotional treatment. In most cases, the parents, though in need for help no less than that of the child, have no sources of support. Parents carry the daily burden of raising and educating an AD(H)D child which is a constant struggle against bureaucracies to receive help and financial support at all stages of the education system. In many cases the parents have to struggle with their child as well, e.g., refusing to attend the educational institution the child feels is unsuitable, and taking the medications that make one feel bad, tired, lose appetite or feel apathetic.

Most learning disabilities influence mainly the child; AD(H)D has major implications on the education system in general, in addition to the suffering of those diagnosed with it. The reason is that most AD(H)D children learn in regular classes, some of which are crowded and highly heterogeneous. One single ADHD student who is moving constantly in the classroom is a real challenge for the teacher, making the other students feel "unable to learn when someone is not sitting silently for more than 5 minutes" or "sings when I am talking."

Unlike the parents of a learning disabled child, who can be aided by improving teaching in addition to receiving emotional treatment, with AD(H)D the treatment is mainly emotional, and most of it is the parents' responsibility. This includes self-regulating the child's behavior, in order to help the child reach full behavioral control. Without dealing with behavioral regulation problems, the child is not only unable to learn properly, but in many cases preparation for a full life in the community is damaged. It happens quite often that parents have no partners who can help (on a daily basis) in dealing with the self-regulation problems of their child. As they are not the "main clients" of the educational system, its responsibility towards them is very limited – especially in Israel, where kindergarten and higher grades

suffer from a lack of mental health professionals. Recently the Israeli Television science channel has shown a documentary describing a 13-year old AD(H)D intelligent boy who was placed in a special education classroom after causing "major disturbances" in his regular classroom. His parents had to remove him from school, and let him stay home in spite of the compulsory education law after he had told, in detail, the transportation driver how he had planned to commit suicide. Indeed, an AD(H)D child with a below-average intelligence can, in certain cases, study in an "advanced" class. However, a highly intelligent boy, forced to stay for long hours on a regular basis with children with whom he cannot connect because of the huge cognitive gap, might not only threaten to commit suicide, but actually do it. Such an incompatibility is extremely critical during adolescence, which is characterized not only by physical and sexual growth, but intellectual blossoming as well.

In order to demonstrate the importance of family support, counseling and belief in the abilities of the very young child, I will describe my interactions with the families of two AD(H)D 4-year old boys. The first family is fully aware of the problem, willing and able to deal with it; the other family is also aware of the problem but does not have the means to deal with it in the most optimal way.

Alon, "The Diamond of the Family"

I had met Alon a few years ago, when I was working as an educational psychologist in a public kindergarten. The teacher, knowing I had expertise in giftedness, asked me to "talk to Alon" who had been "extremely intelligent, but with some problems." According to her, Alon's parents had informed her, "Alon had been diagnosed with AD(H)D."

I called the parents, introduced myself and asked if they would like me to read the diagnosis report. The parents were glad to get my call and were willing to cooperate immediately. They had told me that Alon had been his French "grandmother's child." She had not been living in Israel when Alon's older siblings were born, but subsequently moved to Israel. Trying to compensate for being just a "once a year grandmother" for Alon's siblings, she spent as much time with her beloved Alon as possible.

The 9-page report of Alon's diagnosis, written by one of the senior Israeli child neurologists, was waiting for me in the kindergarten in my next visit. I realized that indeed Alon had high level ADD. I was also impressed by the fact that his parents, both employed full-time, took him for private diagnosis by an expert whose clinic was more than 200 km from their home. After reading the neurologist summary, I asked the kindergarten teacher about the problem she had mentioned. She said that Alon was unable to sit in silence in his chair during the 30-40 minute "morning circle," and he "usually stands up and moves away after a few minutes, tending to his own business somewhere else."

I asked Alon to bring me the smallest chair he could find, and find a silent place where we could sit down. He asked, "How come you want a small chair? You are big!" and I answered, "I need a small chair BECAUSE I am big. If I sit on a big chair next to you, you would have to stretch your neck like a giraffe if you want to talk to me." He gave me a wonderful smile, made a "giraffe face" and we sat down for a talk.

I asked Alon to tell me about his family, and he responded happily. He talked about his parents, his older brother and sister, and his grandmother – a new immigrant from France, who was living in the same street. He told me he was spending some time with her almost every afternoon, speaking French. "Do you want to know how she calls me?" he asked. I said, "of course" and he responded, "The diamond of the family." He said it in French, watching my face, and when he saw my smile he smiled back. Alon spoke about various activities the family liked to do, such as trips during the holidays, going swimming in the local beach and the public swimming pool, participating in many games with his siblings, both school students, and spending time with his sister's friends. As I did not know how much more time I had left, namely, when he was to stand up because "his battery had emptied," I asked him at this stage to draw his family members. He did that gladly, and excellently well: all with small details, e.g., the right number of the fingers and the toes were there. All members were standing together; the grandmother was next to Alon and on the grandmother's other side was Alon's mother, the grandmother's daughter. Everybody's mouth was painted like a smiley. I was very glad, but as 25 minutes had already been gone I became a little concerned about the potential "time problem" and moved to the next subject, asking how Alon was feeling in the kindergarten. He said it was very nice that the teacher let him "work with the older children" – although he was just 4 he was allowed to work with the 5-year olds, who were to start school in the next school year in language, math and art.

I asked Alon if there was anything he did not like in the kindergarten. He said he was not interested in listening to what had happened to other children on the previous day, as was usually the case in the "morning circle," and he "did not disturb anybody, just going to read by myself, or building something new from the Lego cubes, or trying to

complete a puzzle." Though a little risky, I nonetheless asked, "But sometimes the kindergarten teacher teaches something new. Do you not want to learn with everybody?" He answered, "I always ask when I want to learn. Usually it is grandmother who teaches me, so it is not necessary that I also learn in the kindergarten, right?" I had to agree with him. As it was well beyond 45-minutes, so I said, "It was a pleasure talking to you. We shall meet next time I visit your kindergarten to speak with the teacher and with other children, and then you can approach me if you want." He gave me a handshake accompanied with a smile, saying, "It was a pleasure to me."

In the afternoon conversation with the kindergarten teacher I said that everything was fine, and the fact that Alon was so friendly, loving and satisfied with himself and with the world spoke for itself. "Can you give a prognosis about how things are going to develop for him"? she asked. "I am no prophet, I said, but everything is fine for the time being. We must always keep both our heart and eyes wide open, but for the time being – that is all that is needed."

The parents were a little more concerned. When meeting with them their first question was, "Do you think Alon will need Ritalin?" I said that in his case, unlike in most other cases, I was willing to bet that if they kept on doing what they did, I did not expect any problems during elementary school – allowing him to learn at his own pace from his siblings and especially from his grandmother, whenever he was "available for learning," and supplying him with many opportunities for physical, artistic and intellectual activities. I also explained that when anything was interesting enough for Alon, his attention span could be quite long, enabling him to learn anything he wanted. I also added, that it was OK if Alon found school boring in many cases, since he would "mind his own business" during class, as was the case for many gifted children without ADD, not only in elementary school but sometimes in junior- and even high school. However, I added, the parents must never forget to be "on watch." Sometimes one teacher might mock Alon for thinking he did not have to learn, or sarcastically mention that he was "too smart to know what the others were doing," and things could change completely for him.

In summary: Alon would not probably have needed any intervention before starting school, but I made sure his parents became aware of the fact that this situation was just temporary. As Alon intended to stay in the same kindergarten, it was important that the teacher continued to let him advance at his own pace, though the older children from the previous year were already in grade 1. I made sure the teacher would be informed that without intellectual challenge, Alon's frustration might have increased, and adding his ADD to it might have further increased the risk of behavior problems. In addition, the parents were aware of the possibility that more afternoon activities for Alon would have been needed. They knew that if during the first weeks of the school year Alon did not receive enough attention from the kindergarten teacher, there would be no harm in occasionally skipping kindergarten for special activities, such as a museum visit or the "market day" in the neighboring city.

Though it was more than a year in the future, I mentioned the importance of a private meeting with the grade 1 teacher, regular counseling from her if necessary, and close observation of Alon in order to prevent the possibility of negative labeling, which might influence Alon's future educational track, social standing and psychological well being.

Said, the Child whose Mother is "Waiting for the Ritalin"

Said was also 4 years old; living with his mother and sister in his grandmother's house in a large Arab town. I had known the family for many years, and our relationship, though not intensive, was quite close. Said has ADHD, a fact that "had turned the house into hell," according to his mother. The financial situation of the family did not allow her to pay for expensive diagnoses, and finding an Arabic-speaking child neurologist was not trivial either. Said's mother was fully aware that the T.O.V.A. test (Test of Variables of Attention), offered by the city at minimal cost, was not accurate. But according to her: "I do not need him to be diagnosed. On the day he was born, I realized that I would not have much rest in the next 20 years." Said is full of life, demonstrating from a very young age, a special ability concerning the use of tools, solving technical-mechanical problems, overcoming obstacles limiting his movements, and touching various objects and then using them.

Very young gifted children show especially high skills in gross- or fine motor development (Kearney, 2000). As a matter of fact, even the Terman children, over 1500 school children with IQ>135 identified in 1921 by Lewis Terman and studied by him and his colleagues for many decades, started walking about a month earlier than expected (Shurkin, 1992). In addition, though reaching the milestones of gross or fine motor skills substantially earlier than expected, this does not assure high cognitive abilities that are characteristic of future giftedness (Farmer, 1996).

Another characteristic of giftedness among the very young is connected to game style (Wright, 1990). It has been found that pre-school gifted children preferred to participate in games much more complicated than regular children their age, and their games were more target-oriented, namely, they "invented" original ways of using existing games in order to maximize the performance, or played with objects that had not originally been intended to be used as games (Barnett, & Fiscella, 1985).

Said showed unusually outstanding gross and fine motor skills at a very early age, as well as creativity during play. He started crawling at 7 months, and a few weeks later, when left alone for a few minutes on the living room carpet, his mother found him trying to push on the various buttons of the stereo system. Before his first birthday, when he could already stand unaided on his feet, he became interested in trying all the television channels. At age one, when he could walk by himself, he discovered, quite quickly, how the doors opened. After his parents locked all doors, he was found pushing the kitchen stool towards the house main gate, where the handle was higher than he could reach. He did not know yet if it was also locked. Before he was two, he succeeded in turning a key left in the keyhole, and since then it became clear that "one eye must always watch Said."

When Said was two years old, he started to be very active in what had become his main hobby: dismantling electrical devices and different pieces of furniture. He studied all drawers in the house, and his mother became used to leaving pots, plates and cutlery only in the cupboards above the sink. She was afraid he might harm himself by reaching anything heavy or sharp, knowing for sure that neither the large size of any tool, nor its sharpness would prevent her son from trying to grab it and examine it closely. In addition, Said liked to try, though hardly successfully, to put together any electrical device he had dismantled, which had not only reduced the prospects of repairing the tool but was, in many cases, also dangerous. All electrical instruments in the house were connected to new plugs installed high in the walls; all glass and China tableware were stored so high the short grandmother could not reach them without her daughter's help; the entrance door was always locked, something that, as the grandmother said, "never happened even when I had 8 children in the house."

Since I do not know Arabic, I could not use conversation, the most important tool for identifying both verbal and mathematical-logical high abilities. However, I could identify Said's highly developed sense of humor. There is a lot of research about connections between giftedness and humor (e.g. Holt & Willard-Holt, 1995; Ziv & Gadish, 1990), especially important for us is the relationship between humor and high ability at an early age (Barnett & Fiscella, 1985; Eby & Smutny, 1991; Gross, 2004). I have watched Said's ability to understand humor and try to use humor as well. For example: While he still crawling, I watched him move my bag from the sofa to under it, and enjoy looking at me when I was looking for it. Once he pretended to be tired when dinner was served, but as soon as his plate was removed from the table and he was asked "Why are you not in bed," he just smiled. His mother had defined him as "funny kid," Although I don't understand his language, I am certain she was right.

Said's mother obtained from his pediatrician a recommendation for emotional treatment, preferably by horseback riding or animal-assisted therapy (AAT). However, she was not able to finance any therapy. When the doctor suggested she could take her son to an open space, to the fields, bicycle-riding or football playing, she said: "I need to work full-time, and take care of the house as well. When am I to do all these traveling? Inside the city there is not even a proper, safe play-yard!"

When the mother asked the doctor; "What is to happen when Said starts school," he answered, "Did you hear about Ritalin?" "So why not start now?" she asked. The doctor explained that he could only prescribe Ritalin to children over five. So now the mother is waiting for her son to be five. She does not know that studies show that about 25% of children taking Ritalin do not react to it (Pelham et al., 1999), and even when they do – its effectiveness declines during time (Reynolds & Fletcher-Janzen, 2009). She is not willing to hear about the side-effects of Ritalin or Adderall, such as anxiety, boredom, fatigue, headaches, stomachache, depression, appetite loss, difficulty sleeping, motor ticks, and social withdrawal (Pelham et al., 1999). When I mentioned the most common side effect, appetite loss, she said: "So he will be a little thin, but I will finally get some silence."

In summary: Said's family lacks the financial and social resources needed for an optimal treatment and management of ADHD of a young boy. In a few months, when he starts being treated medically, it will be possible to read for him on a regular basis, and to have fixed time for playing with him. In short – to respond to his needs according to his pace in a variety of fine motor skills areas, such as building, painting, beading (in making jewelry), tying, and using different tools. Said's quick understanding might lead to good mathematical ability, but it is impossible to introduce him to math while his attention span is so short. I suggested to his mother to start asking him "life math" questions

such as, "How many parts is the cake to be cut" according to the number of the present people, or "If I give you 10 Shekels for falafel, how much change will you give me back?" I intend to continue my relationship with Said's family and counsel them, as much as I can in spite of the language problem, as I believe opting for medical treatment is a choice that should be respected, even when it can never substitute for counseling the child and his family.

Conclusion

In this article I have tried to open a view to what has become the center of many families – their AD(H)D child. My perspective is aimed at focusing on two somewhat new angles in the AD(H)D phenomenon: (1) The case studies I have described are of 4-year olds, an age generally assumed to be too early for the identification of this disorder. Therefore, the research conducted on AD(H)D children that young is quite limited; and (2) The two boys described are very intelligent. Indeed, at such an early stage it is not usual in Israel to have children identified for giftedness, as the Ministry of Education identification occurs in grade 2 or 3 (age 8 or 9). There is no reason to have them examined privately for giftedness at an earlier age, but it is obvious that any intervention must take into consideration that these children need a lot of intellectual stimulation, deep learning and challenges.

Both children have intelligent parents, highly conscious to the needs of their children. However, the differences between the family backgrounds, social status and financial situations have a substantial influence on same age children with the same disorder. The availability of suitable professionals is also of high importance, but the willingness of the parents to go to these professionals, who can assist their children, is of no less importance.

These two case studies might also supply a partial answer to many of the parents arguing about the "pros and cons of Ritalin" as is obvious from the written media, many TV programs, and Internet communication, including parents' forums uniting hundreds of thousands of worried parents around the world. My case studies present a complicated, far from black-and-white situation, where the only answer that can be given is: Each child is a unique human-being, with special needs, wishes, abilities and conditions. Each AD(H)D child needs her or his own therapeutic and regulation program with full help and mediation of the family, whether it includes or excludes Ritalin, in order to get the best possible developmental results regarding all components in all dimensions: psychological, social, familial and educational.

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Increasing the Eligibility of Title I Students for Gifted Education Programs: Pilot Study using the Kingore Observation Inventory

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For decades many parents, educators and community members have been frustrated with the unequal representation of poor and minority students in gifted education programs. Educators often assume that gifted potential is equally distributed across economic and cultural subgroups (Clark, 1997; Frazier, Garcia, & Passow, 1995); however, significant unequal representation of poor and minority students in gifted education programs continues to be of concern to both practitioners and researchers (Ford, Harris, Tyson, & Frazier, 2002; Hébert, 2002; Ford & Harris, 1998). The complex issue of the underrepresentation of minorities, children from low socioeconomic environments, and students with limited English speaking abilities in gifted education programs needs further study (Callahan, 2005).

In order for us to serve gifted students, the students must first be identified. Unfortunately, too many programs narrow the search by focusing mostly, if not completely, on IQ tests. While many school districts have defined giftedness broadly by including leadership, visual and performing arts, creative and productive thinking, and academic and intellectual talent, children continue to be excluded from gifted services due to the existing models of referral and identification. Unfortunately in most instances, we do not cast a wider net in the identification process and are excluding many students, especially those that do not fit the traditional “gifted” picture. We often miss those students who do not present as highly verbal, organized, even-tempered, and well above average academically.

While there are clearly differences among those identified as gifted, some early characteristics are frequently noted in children who are later identified as gifted. Early language development and reading are two such characteristics (Hodge & Kemp, 2000), as well as, strong verbal and visual memory (Harrison, 2004), intense curiosity and interest in problem solving (Hodge & Kemp, 2000), capacity for abstract thinking (Walker, Hafenstein, & Crow-Enslow, 1999), and extended attention span (Damiani, 1997). However, students from low socioeconomic backgrounds may not present in the same manner. High potential in these students is often hidden by a lack of school readiness due to preschool and early home experiences (Magnuson, Meyers, Ruhm, & Waldfoegel, 2004). Giftedness does not always look the same when we consider the diverse backgrounds from which our students come.

High ability learners do not always demonstrate their skills in academic environments (Naglieri and Ford, 2003). Often, these learners do not see the connection of the academic content to their everyday lives; therefore, school work does not appear engaging for these students. The lack of identification of the need for talent development for these students often leads to negative outcomes in cognitive, academic, social, and emotional development (Neihart, Reis, Robinson, & Moon, 2002). A lack of understanding of the development of poor and minority children on the part of teachers is one factor that contributes to low numbers of these students referred and identified for gifted programs (Ford & Milner, 2005).

Additionally, selective referral is one of the major reasons for underrepresentation of minority students in gifted education programs (Ford, 2010; Ford, 2007; Frasier, Garcia, & Passow, 1995). Students from culturally diverse and economically disadvantaged homes are rarely referred by teachers for gifted programs (Ford, 1996). Teachers' conceptualizations of giftedness and their understanding of their own students, including those from poverty or minority backgrounds, are critical in the identification of individual needs and talents in the classroom (Moon & Brighton, 2008; Ford & Milner, 2005). One factor involved in under-identification is that teachers often do not see talent development or acceleration in academics as appropriate or necessary in the early school years (Moon & Brighton, 2008; Sankar-Deleew, 2004). When we view giftedness through the traditional model, we often do not recognize the abilities of those students from diverse groups who frequently present their skills in different ways or perhaps do not appear to show those traditional characteristics at all.

Children from diverse backgrounds or disadvantaged homes are less likely to have enriched, talent development support outside of school, and teachers are much less likely to refer African American and Hispanic students for gifted programs than their White peers (Tenenbaum & Ruck, 2007). Similarly, when given hypothetical cases or profiles, teachers were less likely to refer African American students for gifted programs than similar students whose ethnicity was not identified (Elhoweris, Mutua, Alsheikh, & Holloway, 2005). Further, Elhoweris (2008) found that teachers were more likely to refer a child from a high socioeconomic background than an identical child from a low socioeconomic background. Moon and Brighton (2008) found that teachers continue to hold traditional views of giftedness such as gifted students have strong reasoning skills, strong language and vocabulary skills, and a great store of knowledge. In that study, teachers also had more difficulty seeing students without strong early reading skills, limited vocabulary, difficulty working independently, or lacking in internal motivation and persistence as possibly gifted. Such characteristics are often used to describe children from poverty.

Moon and Brighton (2008) found that teachers believed gifted students needed "lots of books in the home" and "lots of experience from family trips"; both of these would be more typical of children from higher socioeconomic groups. Additionally in that study, one-third of teachers felt that giftedness is not equally present across all socioeconomic groups, and three-fourths indicated that students with limited vocabulary would be hard to imagine as gifted. Such a belief would disadvantage students whose first language is not English.

An unfortunate outcome of our current situation is that often students who lack challenge in the educational environment may begin to demonstrate unwanted behaviors such as noncompliance, disruptive behaviors, and disrespect. Then those behaviors could limit the child's opportunity for a successful referral for gifted services even further.

Standardized IQ tests have long been accused of being biased against disadvantaged and minority populations, and therefore, they often are the primary culprit in keeping minorities out of gifted programs. As discussed above, the tests administered to students and the checklists or questionnaires completed by teachers and parents can both be biased against those not of the dominant culture. There is no "one size fits all" intelligence or achievement test. Administration instruments must be reliable, valid, and culturally sensitive. Test developers have long known that the tests that were once created with only the white, middle class in mind are biased against those from other backgrounds. While developers work to avoid this bias by including individuals from diverse groups in the norming sample and having multicultural consultants work with them during item development, bias continues to exist.

Using valid and reliable tools for identification will limit the test bias and increase the numbers of minority students in gifted programs. Broadening the definition of giftedness and rewriting referral procedures for gifted evaluations will increase the number of low income and minority students identified as gifted. According to a Department of Education Report, systems for identifying the gifted should seek variety, use many assessment measures, be free of bias, be fluid, identify potential, and assess motivation (O'Connell-Ross, 1993).

To increase African American student representation in gifted programs, educators must adopt contemporary definitions and theories of giftedness. Recruitment and retention of African American students in gifted education through the use of comprehensive services can increase the frequency of these students being identified and served in gifted programs. Teachers trained in gifted and multicultural education are more effective in identifying and serving African American students. To support achieving their potential, gifted African-American students must be identified and served (Ford & Trotman-Scott, 2010). Qualitative definitions of underachievement offer more promise than quantitative definitions in describing poor achievement among gifted African American students. The numbers of African American students in gifted programs must be examined relative to recruitment and retention issues. Finally, family involvement is critical to the recruitment and retention of African American students in gifted education.

Current Study

In this study, a suburban school district implemented multiple trials utilizing a variety of strategies to identify students as potentially gifted who were limited in English proficiency, from diverse backgrounds, or those from poverty. This was an effort to determine if an alternate screening instrument might more successfully cast a wider net and possibly identify more students from under-represented groups as being gifted. Prior to the implementation of this project, the demographics of students in the gifted program, as shown below, were not representative of district's entire population.

Ethnicity	Total District Population	Gifted Population
White	58%	76%
African American	20%	9%
Hispanic	18%	10%
Other	4%	5%

This project began with a pilot study using the Kingore Observation Inventory (KOI, Kingore, 2001) to screen potentially gifted students. It was implemented in ten elementary schools. The KOI increases teachers' effectiveness in identifying students with gifted characteristics by: (1) enhancing teachers' awareness of student response patterns; (2) providing a number of lessons designed to elicit advanced behavioral responses; (3) identifying a standardized method for observing student behaviors; and (4) documenting teachers' insights about their students to other educators. The KOI is known for its ability to identify gifted potentials in minority students and students from poverty; these students are frequently difficult to identify through standardized tests (Kingore, 2001). The KOI offers a series of lessons designed to elicit specific behaviors that have been linked to students with high capabilities. These behaviors target many forms of skills such as verbal, mathematical, spatial, and personal, among others. While these lessons are taught, observational data is collected on students to measure the frequency of the specific target behaviors. At the end of the series of lessons, the frequency of observed behaviors is totaled to identify those students who are demonstrating characteristics of giftedness.

In this first trial, the ten schools that participated in this pilot project were selected based upon having both Title I status and low gifted populations. In this district, Title I schools were defined as having high percentages of low socio-economic status (SES) students based upon their students' eligibility for free and reduced lunch programs. The schools elected to implement this program at either the first or second grade level with half of the schools studying each grade level. All students in the selected grade level at each school participated in the study. The teachers of the gifted at designated sites were trained at the district level, and then they, in turn, trained the teachers in their respective schools on the use of the KOI. Teachers of the gifted taught KOI talent development lessons with cooperating teachers at either the first or second grade level. Together, they observed student responses to the higher-level tasks presented in these lessons. The classroom teacher also kept a separate log for observable behaviors once the characteristics were identified. Based on student responses, the teachers rated the students. Students with a superior or very superior level of response were discussed at their school's Student Study Team to determine if further

assessment should be considered based not only of the KOI but also on other indicators of student performance. Other indicators considered included school-wide progress monitoring assessments and teacher and parent reports.

Results

Eight hundred fifty-one students participated in this project during the second semester of the 2006-07 school year in an effort to increase the numbers of low SES students in gifted education. Once the students were identified based upon the data collected during the KOI lessons, the student study team reviewed the existing data on the students. This might have included other school-wide assessments such as Dynamic Indicators of Basic Early Literacy Skills (DIBELS) or other reading and math data regularly gathered to monitor student progress. Negative characteristics were also considered. These included: bored with routine tasks, refusal to do homework, critical of self or others, keen sense of humor (appropriate or inappropriate), and domineering attitude. The student study team determined which students were recommended for further assessment.

The first and second grade students participating in this study consisted of 851 students enrolled in ten Title I schools. After the period of data collection, 122 (14.3%) were brought to the Student Study Teams based upon the KOI data. The student study teams made recommendations for further assessment. Eighty (9.4%) students were referred for individual assessment. Demographics of the participants are listed in the following table.

Ethnicity	Total Participants in Individual Assessment	Number who were Low SES*
White	33	28
African American	25	20
Hispanic	20	17
Other	2	0
TOTAL	80	65

*Eligible for free and reduced lunch.

The range of scores on the formal intelligence test varied from 88 to 147. Of the 80 students evaluated, 17.5% were found eligible for gifted services using both plan a and b; plan a was the traditional method of eligibility solely based upon IQ scores, and plan b was an alternative method of students from low socioeconomic backgrounds that included IQ and other relevant factors such as grades and teacher and parent ratings. Therefore, using the KOI method yielded a 17.5% eligibility rate based upon the eighty students who were referred for formal evaluation. Of the fourteen students eligible for services, 11 were Caucasian, 1 was Asian, and 2 were Hispanic. Eight of the fourteen students identified received free and reduced lunch. Therefore, this project demonstrated reasonable success in identifying low SES students as eligible for gifted education.

Limitations and Follow-up Study

Some limitations and concerns regarding this research were: (1) the number of schools participating in this pilot study may have been too large to ensure inter-rater reliability on the Kingore Observation Inventory; and (2) therefore, student study teams made inappropriate referrals. It was decided to repeat the study with fewer schools and to have better controls over extraneous variables by offering better training to both teachers of the gifted and participating general education teachers. In addition, site based school psychologists worked closely with teachers to ensure consistent observations of student responses to talent development lessons in order to improve inter-rater reliability.

The same process was completed a second time with one elementary school studying second grade students. This school had previously participated in the earlier implementation of this project at the first grade level. Of the eighty participants, ten were referred for formal evaluation, and of those students assessed, six were found eligible for gifted

services. This trial proved more productive in identifying students as gifted perhaps due to the better training and controls described above. Of those six students, four were from non-white backgrounds, and half were considered low SES. This again demonstrated success in identifying low SES students as being gifted through screening with the KOI.

Conclusion

The initial purpose of this study was to determine whether alternative screening methods, such as the Kilgore Observation Inventory (KOI), would increase the number of minority students referred and found eligible for gifted services. It should be noted that the study was not attempting to solely identify English Language Learner (ELL), minority, or low socio-economic status students. While nearly all of the students participating were from low socio-economic backgrounds, not all of the students fell into either ELL or minority groups. However, the results do indicate that using the KOI as a screening tool shows promise in an effort to increase low SES students served through gifted education programs. With this said, a significant limitation of this research is the lack of a comparison group evaluated with a more traditional screening tool. Such data are not available as this project was a pilot project implemented in a few schools to determine the utility of district-wide implementation.

While this pilot project is a positive early step in looking at alternative methods to identify underrepresented students as gifted, it can also serve as the foundational point for a national conversation among educators concerning how to increase underrepresented populations in all gifted education programs. It is recognized that there is no “one size fits all” method for accomplishing this goal. Therefore, it is hoped that every school and district in our country will reflect upon this pilot study, and begin to have conversations regarding what they could be doing within their setting to increase underrepresented populations in their gifted education programs. When all of the efforts from these conversations are implemented, they will allow researchers to collect data from a multi-faceted cross-section of communities – providing greater representation for all of the various ethnic and socio-economic groups that exist in our country. It is anticipated that the data collected from these studies will be large and diverse enough to make recommendations for all remaining schools/districts to increase the identification of underrepresented populations in gifted education programs. So the next step is yours to begin the conversation regarding how you can increase the identification of students from underrepresented populations for your gifted education programs.

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Get to Know about Technology Education for Gifted Students

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Technology education (tech ed) is the study and application of the human designed world – very close to what engineers do. It is problem-based learning utilizing math, science and technology principles, often involving:

- Designing, developing, and utilizing technological systems.
- Open-ended, problem-based design activities.
- Cognitive, manipulative, and effective learning strategies.
- Applying technological knowledge and processes to real world experiences using up-to-date resources.
- Working individually as well as in a team to solve problems.

Gifted students who progress through a technology education curriculum would be prime candidates for hiring in today's world of business, and they would command very good starting salaries. Here are the reasons why the business world likes tech ed:

- 1) Students learn that the world is multi-dimensional and problem solving must take into account constraints and interdisciplinary concerns.
- 2) Technology education lesson plans embodied STEM principles long before the acronym entered the educational lexicon, and is exactly the basis for new product development in the business world. It is what Thomas Edison employed at his legendary West Orange, New Jersey labs to create new products.
- 3) In the technology education classroom, students learn very early to conceive and manage projects, and work in team settings –such project management skills being incredibly valuable to companies.
- 4) Head and hands thinking in the tech ed classroom builds a powerful sense of self-esteem, real confidence based on solid accomplishment.
- 5) As gifted students create new product ideas in the classroom, they become intimately familiar with the story of capitalism, and how it affects how and why new products are designed. What company would not value that? Some of these creative students have gone on to patent their new products!
- 6) Tech ed is the only place in the curriculum today where creativity is always engaged and invention becomes second-nature (exactly what President Obama encouraged us to do with re-discovering our Edison spirit).

Tech ed is a method of thinking, solving problems, and envisioning new things....an ingrained philosophy of applying creativity and out-of-the-box thinking. It is a toolbox enabling inventiveness, entrepreneurship, and setting the stage for building national wealth. Application is the chief watchword here.

Tech ed is also a “chick magnet”, with many young ladies involved, often referred to as “Femgineers,” who showed this retired engineer a few new design tricks and incredible creativity. I still marvel at how busy these young women are after school, competing in state-wide design challenges and winning accolades.

Take the time to learn more about this curriculum and maybe visit a tech ed classroom. There might be one right there in your school. Peek in and chat with the teachers, identifying similarities in tech ed with what you want to accomplish with your gifted charges. Resist the temptation to dismiss “application” or divorce it from academic purity, for we ultimately are head and hand creatures. You have only to watch small children playing with blocks to know that creative application trumps theory, synthesis, and formal schooling.

Application runs hot in our blood, and tech ed is a venue for empowering and directing strong primal undercurrents. Tech ed validates modern brain-based research about the complexity, non-linearity, and problem solving propensity of the young brain. Our species built, invented and met its needs long before it codified the laws of science (ca. the 1500s). That codification made us better builders/inventors/applicators, but mistake not what came first. In the final analysis, technology education teaches young folks how to change the world to meet the needs of its inhabitants, ultimately defining our social and cultural relevancy.

If you have seen the endearing movie, *October Sky* (1999), or read the touching book, *Rocket Boys* (2000) by Homer Hickam, upon which it is based, you are appreciating what tech ed is all about for the gifted.

Tech ed....don’t leave school without it!

Author’s Website Choices...check them out....

- <http://www.teachtechnj.org/>
- <http://www.iteaconnect.org/Resources/PressRoom/JapanPaper08.pdf>
- <http://www.iteaconnect.org/>
- <http://www.techdirections.com/>

Harry is a retired engineer, inventor, teacher, and author. He holds 12 US Patents; and has published over 500 articles and papers, as well as 50 teacher’s resource books and math games. Over 60,000 teachers nationwide read his educational articles every month. His GEP books include: 1) *Solar Power, Fuel Cells, Wind Power and Other Important Environmental Studies for Middle School Gifted Students and Their Teachers: A Technology, Problem-Solving and Invention Guide*; 2) *Creativity Discussions and Challenges for Your Gifted Students*; and 3) *Heroes of Giftedness: an Inspirational Guide for Gifted Students and Their Teachers* (major contributor). His latest book, *STEM—Science, Technology, Engineering and Mathematics Education for Gifted Students*, was released by Gifted Education Press in April 2011.

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Correction of information included in *GEPQ*, Spring 2011 Issue. One of the readers of *GEPQ*, Katalin McClure, pointed out a discrepancy in our article, “Why Gifted Students Need Trained Gifted Teachers.” We said (p. 10) that Alabama, Connecticut, Kentucky, New York, Oregon, and Washington require training in gifted education for regular education teachers, based on an article in the Duke Gifted Letter. However, upon further checking, we determined that both New York and Washington do not require this training for regular education teachers. Nanci Mart and Judy Micheletti

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***My Fair Lady* as a Humanities Project**
Michael E. Walters Center for the Study of the Humanities in the Schools

The musical and film *My Fair Lady* are a perfect Humanities project for gifted students. The original concept was derived from Greek Mythology – Pygmalion was a statue of a beautiful woman that the sculptor fell in love with. The British dramatist George Bernard Shaw wrote a play about this myth entitled, *Pygmalion* (1912). Instead of a sculptor falling in love with his artistic creation, the play was about a professor of linguistics and a poor London street flower vendor, Eliza Doolittle. Professor Henry Higgins wages a bet with a friend that he can create a society image by teaching the poor pupil to speak like an upper class lady. One of the results of this encounter was an emotional relationship. After reading this play, gifted students can conduct Humanities research projects on the following topics: social linguistics, the British labor party, and Fabian socialists.

Pygmalion was developed by Alan Jay Lerner and Frederick Lowe into the Broadway musical fifty-five years ago. *My Fair Lady* (1956) was part of the great period of dramatic American musicals from the 1940s until the late 1970s. Lerner and Lowe also wrote the outstanding musical, *Camelot* (1960) – about King Arthur, and perceived by President John F. Kennedy as being his persona. *My Fair Lady* starred the British performers Rex Harrison and Julie Andrews as leading characters. The songs from the musical have become iconic, e.g., “With a Little Bit of Luck,” “I Could Have Danced All Night,” and “On the Street Where You Live.” Regarding this and other great Broadway musicals, gifted students can study their themes, productions and actors. Additional musicals worth investigating are *Showboat* (Jerome Kern and Oscar Hammerstein II, 1927), *South Pacific* (Richard Rodgers and Oscar Hammerstein II, 1949), and *West Side Story* (Leonard Bernstein and Stephen Sondheim, 1957).

My Fair Lady became a film musical in 1964, and remains a major contribution by the American cinema to twentieth century culture. Gifted students can study the different aspects of the cinematic musical such as choreography, costumes and stage design. Therefore, it can serve as an impetus for many effective research projects in a Humanities Curriculum for Gifted Students.

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